FINANCIAL EDUCATION WORKBOOK

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WORKBOOK
4

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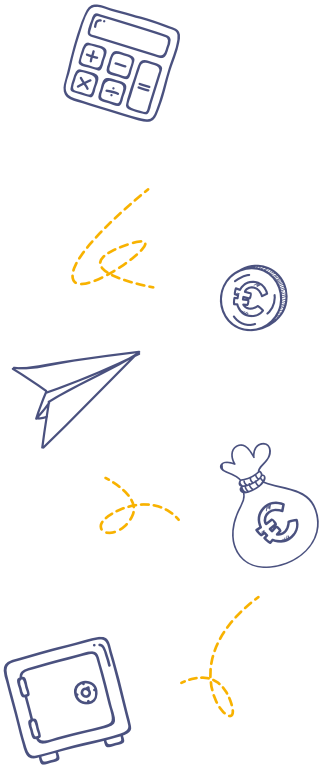
1 PLANNING AND BUDGET MANAGEMENT

HOW I CAN GET THE BEST OUT OF MY MONEY?



In his bank account, André has €130, which he has been saving over the past year with the goal of taking a trip through Europe on the Interrail Global Pass next summer, along with his two best friends.

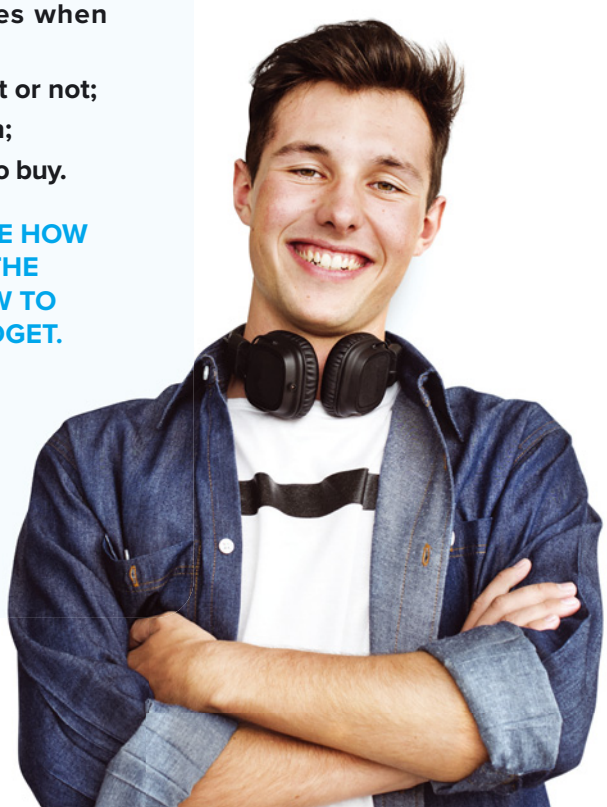
Recently, he received €85 as a gift for his birthday from his parents and uncles. André hesitates between depositing the entire €85 into his bank account so he can buy the Interrail pass later, and using the amount to buy a graphing calculator that he needs for his subjects in Maths, Physics and Chemistry.

Of course, if he chooses to buy a second-hand calculator, he can save some of the amount that he received for his birthday. But a used graphing calculator may break and, in that case, he will not have the right to return or get a refund.

Every day, we all make choices when we use our money:

- **whether we should spend it or not;**
- **what we should spend it on;**
- **which are the best options to buy.**

IN THIS CHAPTER, WE WILL SEE HOW TO MAKE THESE CHOICES IN THE BEST WAY POSSIBLE AND HOW TO PREPARE AND MANAGE A BUDGET.



NEEDS AND WISHES

1

We can spend our money in a way that satisfies our needs or desires. By **necessity**, it is understood as that which is essential to our life and cannot be given up. By **wish**, it is understood as something which we would like to have, but is not really indispensable.

For example, we all need to eat, but if we choose to have a meal in an expensive restaurant, then we are satisfying not only a need, but also a desire.

We have to satisfy our needs, and insofar as possible, we can satisfy our wishes. Desires are a source of pleasure and allow us to achieve our dreams. The problem arises when wishes are treated the same way as needs. When this happens, we run the risk of spending our money on satisfying wishes, becoming unable to satisfy our needs.

Therefore, it is important for each of us to know how to distinguish between what is a real need and what is a desire, in order to make the right choices regarding the use of your money, that is, in order to know how to precisely distinguish expenditures that are necessary from those that are superfluous.

- **Necessary expenditures:** payment of essential goods and services to ensure our survival and life in society (food, housing, clothing, health, education,...).
- **Superfluous expenditures:** payment of goods and services intended to satisfy desires (favourite brand-name trainers, latest game console model, summer festivals,...).

THINK ABOUT IT

1. Imagine you have €100 to spend. List what you would buy.
   Identify in your list what matches your needs and desires.
2. In which group of expenses would you place a mobile phone? Why?
3. Will your answer to the previous question be different when you consider the user's age?

CASE STUDY

BEATRIZ
28 years old

Beatriz has a degree in Computer Engineering, she works at a security software company and her salary is €1 200 net per month. She has recently bought a small, used apartment in Lisbon. The apartment needs work, some furniture and some appliances. Beatriz listed her needs in relation to the apartment, in order to be able to define priorities:

- paint the apartment because the current paint job is in very poor condition;
- repair a leaking tap;
- replace the refrigerator that doesn't work;
- buy a washing machine, which the apartment does not have;
- buy a television;
- buy a bed and mattress;
- buy a sofa, a table and 4 chairs.

1. Indicate the needs that Beatriz must prioritise and those that can be met later, in your opinion.

CÉSAR
26 years old

Caesar has a degree in Art History and works at a gallery in Porto. He receives about €900 net per month and commissions on artwork sold. Sales went particularly well this year and Caesar received a total commission amount of €2 000 net. He then decided to save half of this commission and use the other half for the following expenses:

- bicycle to get to work;
- buying dinner for friends;
- plane ticket to Paris;
- coffee machine;
- a new suit.

2. Indicate the consumables that, in your opinion, correspond to goods that expire after their first use and those that can be consumed/used several times over time.

The needs that are priorities correspond to **short-term needs** and those which can be met later correspond to long-term needs.

Goods that are not exhausted upon first use and can be used several times are durable goods. Therefore, they provide **longer lasting satisfaction**. Goods that are used only once are non-durable goods. Therefore, they provide **immediate satisfaction**.

Spending more than necessary can compromise the fulfilment of our needs. It is common to hear that 'we have to live within our means', which means that it is important to make balanced choices that allow us to fulfil our desires without compromising our needs.

To make balanced choices, it is important to learn how to resist the messages that propel us to consume goods and services, which are presented to us as necessary.

There are many goods with different functions and models, which make people feel as if they live in a permanent state of obsolescence, encouraged to consume continuously with the aim of gaining self-esteem, recognition or entrance into a group; mobile phones are a good example of this. Continuous and excessive consumption can even lead to excessive indebtedness.

THINK ABOUT IT

The purpose of advertising is to promote the purchase. Take a look at the following advertising campaigns and reflect upon the questions:

1. What information is highlighted?
2. Does €39.90 look significantly less than €40.00?
3. PDid you notice that the price of sweaters is 'from', or rather, that some may be more expensive?
4. When reading the ad, is it possible to know that the TV costs €748.50?

Advertising seeks to highlight the information that leads us to make a decision to buy. When this decision is unplanned and is decided moments before the purchase, it corresponds to an **impulse buy**.

To avoid this dilemma that puts us in a bad situation between wanting to get and being able to get, we must plan our expenses and avoid impulse purchases. Here's some advice:

1. Wait and see if the will to buy sticks around for a few days.
2. Before making a purchase, ask yourself 'Do I really need this?'.
3. Be careful with promotions, because not all of them are good opportunities.
4. Resist trends, because fashion goes out of style very quickly.
5. Compare prices in different stores.

As consumers, regardless of whether the purchase was made on impulse or planned, we still may not be satisfied for reasons of defect, malfunction or loss of items. For example, a sweater may have a defect that we don't notice until later, a book we ordered online may never arrive, a new device may break.

In most of these cases, consumers are protected by **specific legislation**, which allows them to return and refund, exchange or repair within the warranty period.

WARNING!

Most stores accept exchanges within the established timeline if the products have not been used and if we have the receipt, although they are not obliged to do so. If we buy a service or good outside of a brick-and-mortar store, by phone or over the Internet, the law provides for a retraction right. In this case, we have **14 days to return** purchases, free of charge and without providing any justification.

PUT INTO PRACTICE

In order to invest your money wisely:

- **Identify your needs** and determine your expenses accordingly.
- **Make balanced choices:** don't confuse needs with wishes and avoid impulsive purchases.
- **Learn how to decode advertising messages** that induce superfluous consumption.
- **Eliminate unnecessary expenses**.
- **Use strategies** to increase your money's potential: compare prices, research product reviews available online and take advantage of promotions.

CASE STUDY

DINIS
15 years old

Dinis is in year 10 and doesn't have a computer at home. To do his school work, he usually uses the library computers. But recently his football practice schedule doesn't allow him to spend as much time at school, which is why he's thinking about buying a computer. He read product reviews online, asked some friends for feedback and the computer of his choice costs €419. His parents asked him to look for a computer with the same features, which would allow him to do his schoolwork, but much cheaper.

1. Does the purchase of a computer by Dinis correspond to a need or a wish?
2. In the case of Dinis, is the computer purchase a short-term or long-term need?
3. Does the computer correspond to a durable or non-durable good?
4. If the purchased computer breaks within the warranty period, what can/should Dinis do?
5. Mention two recommendations that Dinis can follow in order to find a cheaper computer.
6. Dinis found an equivalent computer for a much cheaper price at two different online stores. Indicate the pros and cons for each option.

Option A	**Option B**
6 × €59.90	**€299**
no interest or other charges	+ €20 shipping
immediate delivery	available for delivery within minimum of 1 month
Total RRP: €359.4	

HOUSEHOLD BUDGET

A budget is a tool that helps us to better understand our personal finances as well as plan our income and expenditures, by keeping our goals in mind.

Income is revenue, that is, the money received (salary, pension, subsidy, allowance, gift money...). **Expenditures** are the expenses we have (food, transport, rent...).

EXAMPLE

ELSA
20 years old

Elsa is a university student in Évora. This is the budget that she prepared for the month of March.

INCOME	EXPENSES
Salary from part-time work: €320	Room rent: €200
Commissions on sales: €82	University tuition: €100
Allowance: €100	Food: €155
	Photocopies and school supplies: €10
	Clothing: €12
	Outings with friends: €8
TOTAL: €502	**TOTAL: €485**

With Elsa's income, we can distinguish those that are fixed from those that are variable:

- **Fixed income**: is income that does not vary or varies very little in a short period of time, such as a salary and allowance.
- **Variable income**: is income that varies from month to month, such as commissions on sales.

We can also differentiate between fixed and variable expenses:

- **Fixed expenses**: are those whose amount does not change in the short term (they do not depend on consumption), such as instalments on mortgage loans and insurance (home, car, healthcare); in Elsa's example, they are rent and tuition;
- **Variable expenses**: these are those that depend on monthly consumption and can be changed in the short term, such as expenses with fuel, healthcare, education; in Elsa's example, they are food and expenses with school supplies, clothes and outings with friends.

The budget may vary from month to month, depending on the personal or household financial situation. An increase in income may allow for more expenditures. And a drop in income may force consumption to be reduced, particularly those things that are related to superfluous expenditures.

THINK ABOUT IT

In the example, Elsa's income for the month of March is slightly higher than expenditures in the same month.

1. If it were you, what would you do with the difference?
2. And if the difference was the other way around and you had €17 more in expenditures than income in a month? What steps could you take?

EXAMPLE

FRAZÃO FAMILY

In the Frazão family, residing on the outskirts of Aveiro, total income for the month that is now starting will be €1 928. Mum, in her new job as an accountant, receives €950 net per month.

Dad, a long-time worker in a porcelain factory, earns a monthly net income of €888. Every month, the factory gives out productivity bonuses, with the expectation that Dad will receive a bonus in the amount of €90 net this month.

The total income is enough to cover expenses, which include expenses for housing, the education of a 15 year-old only child, healthcare, food, transport, etc. And it allows them to still save a percentage of what they receive every month. The family uses the budget as a tool to try to ensure an adequate balance between their income and their expenditures.

Let's analyse how they created the monthly budget that now begins:

1. First, they added monthly **income**, divided between fixed and variable:

FIXED INCOME	AMOUNT
Mum's net salary	€950
Dad's net salary	€888
Total	**€1 838**

VARIABLE INCOME	AMOUNT
Dad's productivity bonus	€90
Total	**€90**

TOTAL INCOME	€1 928

2 Next, they added the **monthly expenses**, divided between fixed and variable:

FIXED EXPENSES	AMOUNT
Instalment on mortgage loan	€390
Instalment on car loan	€80
TV + Internet + Telephone Service	€60
Insurance	€70
Public transport monthly pass	€40
Minor allowance	€40
Total	**€680**

VARIABLE EXPENSES	VALOR
Food and supermarket	€580
Fuel	€60
School supplies	€10
Clothing/footwear	€50
Water, electricity, gas	€120
Leisure (books, shows,...)	€30
Dad's personal expenses	€50
Mum's personal expenses	€50
Total	**€950**

TOTAL EXPENSES	€1 630

WARNING!

There are several tools to create and monitor your budget, from the simplest, such as a piece of paper and a pencil, to more sophisticated ones, like the family budget simulator that you can find on the 'Todos Contam' website (www.todoscontam.pt).

3 After listing income and expenditures, they found the balance, which allows them to know how much is left over, how much is missing or whether there is a balance between income and expenses for the month.

BALANCE = INCOME – EXPENSES

BALANCE	INCOME	EXPENSES
€298	€1 928	€1 630

4 With the aim of creating a **savings**, the Frazão family decided to divide the monthly balance into two portions:

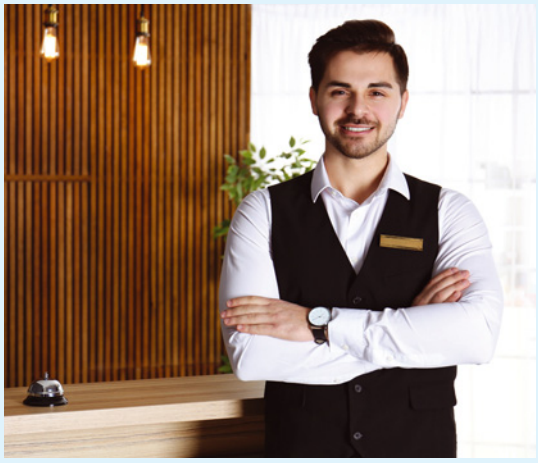
a) an emergency fund to address unforeseen situations that may lead to an increase in expenses or a drop in income;

b) an amount to be deposited in a long-term savings product.

GOALS FOR SAVINGS	
Emergency fund	€68
Savings for long-term goals	€230

CASE STUDY

GUILHERME
25 years old



Guilherme took a professional course in tourism and works as head of reception at a luxury hotel in the Algarve. To accept this job offer, Guilherme had to leave the house where he lived and rent a small furnished apartment close to his new workplace. As a salary, Guilherme receives €850 net per month. This month he will also receive €100 net for overtime work.

For the house rent, Guilherme pays €450 per month. Gas, electricity and water bills amount to €90 per month. He spends an average of €250 per month on food. He commutes by foot to the workplace, so he has no transport costs. He cancelled his gym membership because he can now use the gym at the hotel where he works for free. The cost for the mobile phone and Internet package is €43 per month.

Guilherme tries to save an amount of €30 each month so he can take a snowy vacation in Andorra next winter. Moreover, Guilherme would like to set aside €50 every month to invest in a savings product.

In personal expenses, Guilherme spends €51 per month and for leisurely activities, such as outings with friends and shows, about €28.

1. Create Guilherme's budget for the month that now begins, by using the information provided (you can use the Frazão family budget as a model).
2. This month, will Guilherme have more expenses or income?
3. With this budget, is Guilherme meeting his savings goals? What steps can you take to fulfil them?
4. Indicate a situation that forces Guilherme to spend more money than planned this month.
5. What additional action can Guilherme take to deal with future unforeseen situations?

The incomes to which we have referred so far, in all the examples, from Beatriz to Guilherme, were presented in net amounts. But in the employment contract for each one of them, the payment stipulated is a **gross salary**, from which a certain amount is withdrawn to pay taxes and Social Security, according to the percentages stipulated by law. Therefore, gross salary and net salary differ as follows:

- **Gross salary**: amount that an employee receives for their work before all taxes are deducted and payments are made to Social Security.
- **Net salary**: amount that an employee effectively receives for their work, after all taxes have been deducted and payments made to Social Security.

EXAMPLE

HELENA
27 years old

As a bank employee, Helena has a monthly salary of €1 060, plus food allowance in the per diem amount of €6.20, paid according to the number of working days for that month.

The salary is subject to an 8.4 %* Personal Income Tax, since Helena is a single mother of a 5-year-old girl, and a social security contribution rate of 11 %.

In Helena's case, the food allowance is tax-free, since it is paid on a meal card.

* Personal Income Tax tables vary annually and can be checked on the Tax Authority website. The amount used in this example is indicative, approximate to the actual value.

What will be the amount of Helena's gross salary?

Helena's gross salary corresponds to the amount of her monthly salary plus the value of the meal allowance times the number of working days for the month in question.

Monthly salary: €1 060.00

Meal allowance (received through meal card): €6.20 per working day. Having worked 21 working days, Helena will receive an amount of €130.20.

So, Helena's gross monthly salary is:

€1 060.00 + **€130.20** = **€1 190.20**

And what will be the amount of Helena's net salary?

Let's see how to calculate this amount.

- Monthly salary: **€1 060,00**
- Meal allowance: **€130.20**
- IRS retention amount: **€1 060.00** × **8.4 %** = **€89.04**
- Social security contribution amount: **€1 060.00** × **11 %** = **€116.60**

The total amount of deductions is **€205.64**.

Therefore, the net salary amount is equal to:

Monthly salary + meal allowance (on meal card) - deductions:

€1060.00 + **€130.20** – **€205.64** = **€984.56**

To calculate the **gross salary** amount from the given net salary amount, we can proceed as followso:

- Let's calculate the total percentage of deductions:
  11 % + 8.4 % = 19.4 %.
- To the net salary, we discounted the amount of the meal allowance, since it is tax-free: **€984.56 – €130.20 = €854.36**.

Using a rule of three, the net salary amount (€854.36) corresponds to 80.6 % (100 % – 19.4 %) of the monthly salary.

€854.36 ——— 80.6 %
Monthly salary ——— 100 %

Monthly salary = €854.36 × 100 / 80.6 = **€1 060.00**

Therefore, the gross salary amount is equal to:

Monthly salary + meal allow:
€1 060.00 + **€130.20** = **€1 190.20**

RISK AND UNCERTAINTY

We saw earlier that **unforeseen situations** may occur and generate an unexpected increase in expenses.

But unpredictable situations may also happen with personal or family income. Some examples: an unemployment situation, the absence of bonuses due to a worsening phase of individual or company performance, the reduction of commissions on sales, or even situations due to illness or divorce, which not only generate a decrease in income, but also increased expenses.

Setting up an **emergency fund** is essential to address not only unplanned changes on the expenses side, as we have seen, but also to cope with an unforeseen drop in income, as it allows for some budgetary leeway and softens the financial impact of any unforeseen event. **Insurance** can also help in unforeseen situations where there is a drop in income and/or an increase in expenses, such as in the case of unemployment or illness. Insurance is thereby an instrument that helps deal with risky and uncertain situations.

It is advisable to plan a budget in order to obtain a certain amount of savings. An amount between 10 % and 20 % of total income is considered appropriate for savings, but lower income may not permit savings in these amounts, while higher income may permit larger savings. One possible strategy is to understand savings as a fixed expense in the budget, which should be set aside at the beginning of the month, and not at the end, with the amount left over.

When the monthly emergency fund is not used, this amount can be redirected to a savings product. When changes happen that have an impact on income or expenses, it is essential to **adjust the budget**, with the aim of maintaining an adequate balance between what is received and what is spent.

THINK ABOUT IT

The monthly income of a couple with twin 2-year-olds is €2 200 net and is divided into the following categories:

- House, car and insurance premiums: €600
- Food and supermarket: €650
- Monthly day-care payment: €500
- Healthcare: €100
- Leisure and personal expenses: €100
- Emergency fund: €50
- Savings product: €200

1. Imagine an unforeseen situation that leads to a drop in income and two situations that lead to an increase in expenses for this couple's monthly budget, and their amounts.
2. How can the couple accommodate these unforeseen situations in income and expenses into their budget for this month?

PLANNING

1

As we have seen, the preparation of personal and family budgets is important to identify the balance between income and expenses and to control expenses. But the budget is also an important tool for future planning and helps to achieve medium and long-term goals. Having a child, buying or moving homes, a car purchase and retirement are examples of life events that can be predicted and planned over several budgets by setting up a savings account for that purpose.

EXAMPLE

ISMAR
24 years old

Ismar is 24 years old and started his first job a year ago. Although he does not live far from the workplace, he spends three hours per day on public transport to get to the office and back.

Ismar's degree of satisfaction with his job as a computer engineer is very high: his colleagues are young like him and the environment among all is very friendly; the facilities are modern and include a good cafeteria and a gym; the professional challenges imposed upon him are demanding, but they have allowed him to develop his knowledge and skills; the company provides him with health insurance; the current salary is satisfactory and Ismar expects a salary increase as early as next year.

For all these reasons, Ismar does not want to change jobs, despite the fact that the time spent daily on public transport affects his quality of life. So, he thought that buying a car would be the best solution to reduce commuting time. For this purpose, Ismar has drawn up a multi-annual budget, that is, one that covers more than a year, with the aim of achieving this goal to buy a car in 3 years.

Let's look at Ismar's **multi-year budget**:

INCOME	YEAR 1	YEAR 2	YEAR 3
Net salary	€14 000	€14 700	€14 700
Meal allowance	€1 452	€1 502	€1 524
Productivity bonus	€1 000	€1 050	€1 050
Birthday gift from parents and grandparents	€200	€200	€200
Total	**€16 652**	**€17 452**	**€17 474**

EXPENSES	YEAR 1	YEAR 2	YEAR 3
Rent	€6 000	€6 120	€6 242
Water, electricity, gas	€1 080	€1 100	€1 120
Supermarket	€3 600	€3 600	€3 600
Public transportation	€480	€490	€500
TV + Internet + telephone package	€710	€720	€730
Clothing and footwear	€250	€250	€250
Leisure	€300	€300	€300
Personal expenses	€400	€400	€400
Total	**€12 820**	**€12 980**	**€13 142**

GOALS FOR SAVINGS	YEAR 1	YEAR 2	YEAR 3
Emergency fund	€560	€560	€560
Savings for retirement	€1 465	€1 545	€1 547
Savings for car purchase	€1 807	2 367	€2 225

From the above multi-year budget, we can see that in three years, Ismar expects to save €6 399 for the purchase of a car, without forgetting the monthly allocation for an emergency fund and to strengthen retirement savings.

WARNING

By using the **savings simulator** on the 'Todos Contam' website, it is possible to calculate how much you should save per month or per year to achieve your goal. You can also set a goal first and, after setting the amount that you'll save every month, calculate the time it will take to reach it (see www.todoscontam.pt).

PUT INTO PRACTICE

Use the budget to:

- **control whether you have enough income** to cover your necessary expenditures;
- **check if you are spending your money** on what you really need;
- see if **you can reduce the amount spent on variable expenses** or superfluous expenditures by changing habits;
- **foresee variable and seasonal income and expenses**, such as birthdays, Christmas or vacations;
- **define the portion destined for savings,** either to deal with unforeseen situations or to carry out future projects;
- **plan for the medium and long-term**, with specific goals;
- calculate and monitor **the balance**.

Don't lose sight of your budget! Make the adaptations thatare necessary, but maintain the goal of achieving it!

EXERCISES

1. In the following list, identify the necessary expenditures (NE) and the superfluous expenditures (SE):

a) Buy lunch pass for the current week.

b) Buy an upgraded mobile phone.

c) Buy school supplies.

d) Buy some waterproof boots for autumn and winter to replace the ones from last year, which no longer fit.

e) Attend summer festivals.

f) Spend a week with friends on the Alentejo coast.

g) Buy a gaming consoles.

h) Costs to enter university next year.

2. Assuming that we are at the beginning of the school year, from the necessary expenditures that you identified in question 1, indicate what are the short-term needs and what are the long-term needs.

3. Mark the following statements with a **T** (true) or **F** (false): 25 pts

a) A waterproof winter coat is a non-durable good because it is only worn for part of the year.

b) 'Living within our means' signifies using our income in a balanced way, without compromising the satisfaction of our needs.

c) Well-managed money means that we cannot satisfy our desires.

d) An impulse buy is planned before it happens.

e) Waiting for the sales period to purchase a product that we need corresponds to a planned and conscious expense.

4. Look at the list of expenses below and distinguish between fixed and variable expensess: 26 pts

a) Instalment on the home loan
b) Insurance premium
c) Instalment on car loan
d) Supermarket expenses
e) Monthly expenses with extracurricular activities
f) Clothing and footwear
g) Water, electricity and gas
h) Leisure (travel, books, cinema)
i) Occasional public transport tickets
j) Instalment on the condominium
k) Dad's personal expenses
l) Birthday gifts
m) Change tires on car

5. Joana, a year 11 student, wants to go to a concert. Look at her list of income and expenses:

- at the beginning of the month, she has €26.5 that she saved from prior months;
- she receives a €40 allowance at the beginning of the month;
- the concert ticket she wants to buy costs €18;
- the train ticket to the concert venue will cost €13.75;
- she estimates to spend €10 on food at the concert;
- fit is her birthday tomorrow and she expects to receive €80 from her grandparents;
- she wanted to buy an article of clothing worth €24.90;
- meal tickets at the school cafeteria this month will cost her €33.

5.1 Prepare Joana's budget for the month that is now beginning. 15 pts

5.2 Will Joana be able to go to the concert? 5 pts

6. Read the following information about Kaio and Luísa as well as the table on their income and expenses for the current month (of 21 working days).

Kaio and Luísa are co-workers at a gym in Braga. Luísa is an administrative assistant, she is 25 years old and lives at home with her parents. Kaio is a fitness instructor and also manages to give classes as a personal trainer at a swimming pool. The number of classes he gives per month depends on his students' requests. He's lived alone since his divorce about two years ago, and has a smaller son who lives with his mother.

KAIO	LUÍSA
INCOME	**INCOME**
€934 net salary	€750 net salary
€510 net for private personal trainer lessons	€6.20 meal allowance per day
€6.20 meal allowance per day	
EXPENSES	**EXPENSES**
€400 house rent	€250 reimbursement for expenses at parents' house
€230 alimony for the minor child	€150 for food
€160 for food	€112 for the car loan instalment
€210 for the supermarket	€26 for motor insurance
€45 for TV + Internet + telephone package	€15 for mobile phone
€130 for water, electricity and gas	€120 for clothing
€20 for dry cleaners	€100 for leisure
€15 for clothing	€25 for beauty and hairdresser
€70 for football games and shows	€40 for personal expenses
€40 for outings with friends	
GOALS FOR SAVINGS	**GOALS FOR SAVINGS**
€50 for emergency fund	€100 applied to savings
€200 applied to savings	

6.1 Identify both the fixed and variable income for Kaio and Luísa. 10 pts

6.2 Calculate the balance of this month's budget for each one of them. 15 pts

6.3 Should any of them adjust the budget? If so, what measures need to be taken? 15 pts

6.4 In the event of a €42 unplanned medical expense, which of the two will be able to cope best? 5 pts

7. Calculate net salary based on the following assumptions: 14 pts

- Monthly salary: €1 500
- Meal allowance: €4.77, received on a meal card (22 working days)
- Social security contribution rate: 11 %
- Personal Income Tax retention rate: 17.8 %

8. Calculate the gross salary based on the following assumptions: 14 pts

- Net salary: €746.2
- Meal allowance: €4.9 received on a meal card (21 working days)
- Social security contribution rate: 11 %
- Personal Income Tax retention rate: 7 %

9. Complete the following text by selecting the appropriate words. 24 pts

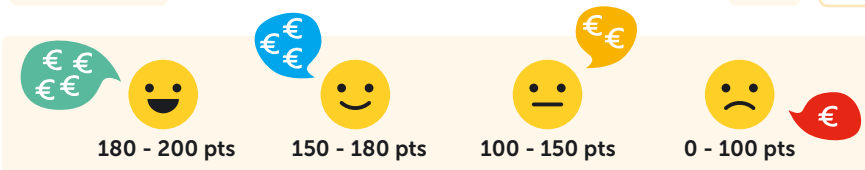
expenses savings product retirement house goal balance plan multi-annual income emergency fund car education

A personal or family budget can be affected by unexpected _____, such as house flooding, or an unexpected reduction in _____, such as a reduction in the variable salary part. For this reason, it is essential to establish a/an _____ to handle these situations. It is also important to set up a _____, intended for medium- or long-term projects, such as the purchase of a _____ or a _____, keeping an amount to support _____ or for the _____ of children. Keeping an amount for an emergency fund and an amount for a savings account should be regarded as a _____ in the monthly budget.

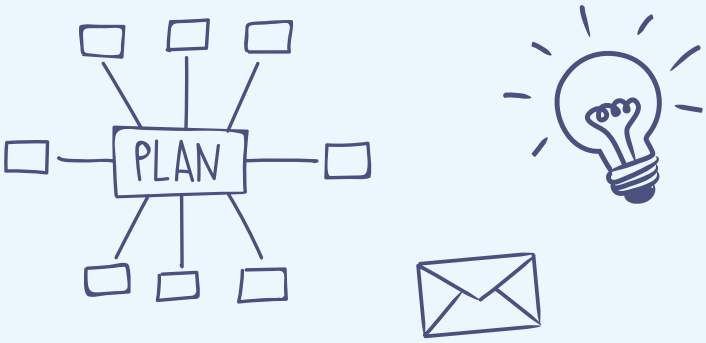
The budget is an important tool for determining the _____ between income and expenses. But it is also an instrument that should be used to _____ the future and help achieve medium and long-term goals, and should sometimes be _____, that is, considered for more than one year.

Self-assessment

Total



2 SAVINGS

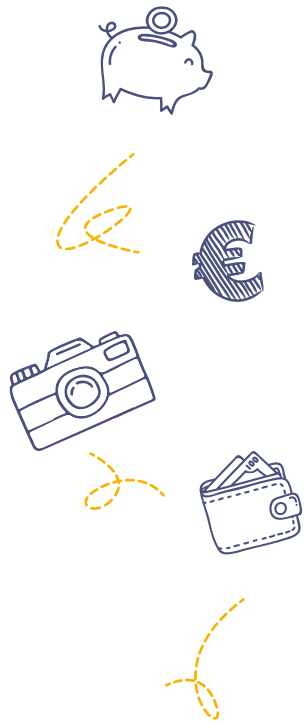


IS IT IMPORTANT FOR ME TO SAVE?

Over the past year, Monica has been saving to buy a camera. In her piggy bank, she puts the €15 that her maternal grandmother gives her every month to help her fulfil this wish as well as coins that she occasionally finds in the pockets of her clothes or at the bottom of her backpack.

Sometimes, she withdraws small amounts from the piggy bank to go out to eat with friends or for other daily expenses. When her grandmother recently asked her how much she had already saved and when she expected to be able to buy the camera, Monica didn't know what to say.

Putting in and taking out coins from the piggy bank without calculating the total amount each time, and without making a savings plan leaves her with no clear idea of when she'll be able to accumulate enough to buy the camera she wants... six months, nine months, a year...?



The goals we set throughout our lives require us to create savings.

IN THIS CHAPTER, WE WILL EXPLORE GOALS FOR SAVING MONEY AND OPTIONS FOR INVESTING OUR SAVINGS.

SAVINGS GOALS

2

Savings is the amount of money put aside in the present to be used in the future.

Imagine that we open a bank account with the amount from our savings over the past two months, for example, €100. If we can add €50 to that account every month, that's the amount we're saving each month. At the end of the year, we will have been able to save €600, in addition to the initial €100, that is, we saved a total of €700.

WARNING

Saving money is to accumulate it in the present for future use. But it also means you should avoid spending, or not waste.

The amount of our savings is likely to be spent in the future. It can be spent in the following days or weeks after being saved, to satisfy an immediate need; in this case, our savings have **short-term goals**. But the amount can be spent in the more distant future, if, for example, we are saving with the aim to buy a car, a house, the children's education or retirement; in this instance, our savings have **medium** or **long-term objectives**.

When we save with long-term goals in mind, we are postponing the satisfaction that is usually associated with more immediate fulfilment, to the distant future. But saving monthly and seeing the amount of savings grow can also be very rewarding.

The amounts saved and invested can increase the quality of life for those who save. For this to happen, it is important, however, that the amounts saved are spent deliberately, because choices made can be irreversible.

There are several goals for saving:

- meeting **unexpected expenses**, such as a health expense;
- reaching a **specific goal**, such as paying tuition or fulfilling a personal dream;
- **accumulating wealth** for the future, particularly for retirement.

THINK ABOUT IT

1. Make a list of goals you would like to save for:
   a) this year;
   b) over the next five years.

CASE STUDY

NÁDIA
17 years old

Nadia has now started year 12 and is planning to subscribe to an online channel for exercises in Maths and their solutions for €7 per month between September and June of the following year, so she can prepare for the course exam. She realised that she could subscribe to the entire academic year for €45. Not wanting to overburden her parents, she only has €12 left over from her allowance to get this subscription.

1. How many months will it take Nadia to save the amount needed to obtain the annual subscription?
2. How much will Nadia save if she opts for an annual subscription?
3. Which type of subscription should Nadia choose? Justify it by indicating the pros and cons.

ÓSCAR
17 years old

Oscar, Nadia's colleague, received the news a few days ago that his parents can only afford half his final year trip travel costs. The total amount per student is €525, expecting that each student needs at least €60 for food and small expenses. In his piggy bank, Oscar has €40, his allowance is €30 and he will only receive it three more times before having to pay the full amount for the trip.

4. What amount will Oscar be able to save up to the payment date for the trip if he does not have any expenses?
5. What consequence may await Oscar since he did not save enough before?
6. If Oscar decides to redirect his current and future savings to get his driver's licence, when will he be able to pay the initial €220, having planned to make a monthly savings of €18?

To achieve some of our goals, we need to build up savings:

1. First, the goals must be clearly established;
2. Then, we must assess how much we need to save in total to achieve them;
3. Finally, we must plan a required amount of monthly savings and include it in the personal or family budget.

PUT INTO PRACTICE

Saving can be a challenge! Here are some tips to reduce your expenses in **order to save** more:

1. Compare prices directly from multiple vendors or stores or by using a price comparison app in order to find out where you can buy your favourite products at the lowest price.
2. Use discount coupons that are offered by some stores. You can find them online, in magazines and in stores.
3. Follow your favourite stores on social media and keep an eye out for promotions and discounts.
4. Clean up your running expenditures: cancel gym membership if you haven't gone and subscriptions you don't use as well as change your mobile phone contract to a cheaper one.
5. Use a bike instead of public transport: you save on the amount of the monthly pass and work out at the same time!
6. Make a budget of your expenses and income. Use your favourite workbook, the simulator available on the 'Todos Contam' website or an app. The important thing is that you do it!
7. Sell things you no longer use. They may be valuable to others and are a source of revenue for you!

WARNING

Reviewing your expenses and spending money in a more informed way will increase the amount of money you can save!

CASE STUDY

PEREIRA FAMILY

In the Pereira family, dad and mum are both cooks in the same hotel and each receives €890 net per month. The daughters, 7 and 8 years old, attend primary school in a public school close to their home. In order to be able to provide better support to their daughters, none of them work overtime. As fixed expenses are €740, for this month they foresee an amount of €805 for variable expenses. For the past four years, this family has been depositing €125 per month in a savings product and setting aside €100 for an emergency fund, which they transfer to the savings product if it is not used.

QUEIRÓS FAMILY

In the Queirós family, dad is a driver and mum is an accountant. Together, they earn €1 850, to which €205 is added from the grandfather's pension, who lives with them and contributes to the total income. The household unit also includes two twin 18-year-old sons. The fixed expenses of this family are €1 170 and the expectation of variable expenses for this month is €760. In the last six months, mum and dad have managed to save €125 per month for the first time.

In the middle of the month, both families were faced with unforeseen situations.

- In the Pereira family, a breakdown in the car's engine led to an unforeseen expense in the amount of €722.
- In the Queirós family, the sudden deterioration of the grandfather's health forced the parents to hire the services of an elderly assisted living facility that could provide the necessary care. In their area, the only assisted living facility with a vacancy charges €600 per month.

1. Calculate the balance of this month's budget for each of these families.
2. Which of the families is best prepared to cope with the unforeseen expenses that have occurred? Why?
3. What measures should the family that is less prepared take?

One of the functions of savings is the **precaution against risk**, allowing you to confront imperceptible variations in expenses, such as what happened to the Pereira family with the car payment arrangement or the Queirós family with the payment of the first monthly fee for the grandfather's residence.

But savings are also important to cope with **planned variations in seasonal** expenses, such as some taxes, which are paid once or three times per year. And it's also important to deal with **unforeseen or anticipated reductions in income**, such as job loss.

When we have savings, we know that we can better deal with fluctuations in spending and income, and our level of concern decreases.

Savings allow us the flexibility of not resorting to loans and the payment of associated interest. Creating savings also helps us to maintain our well-being!

Insurance is another way to protect ourselves against unforeseen and risky situations.

SAVINGS INVESTMENTS

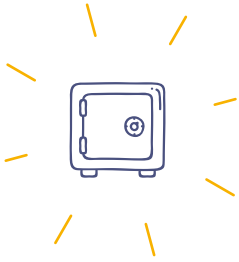
Sometimes, we keep our savings at home, for example in a piggy bank. This option is practical when it comes to small amounts. But it becomes riskier as the amount increases, since it is difficult for us to keep exact track of the accumulated value and know if any money is missing; moreover, money saved this way will not generate any income. For these reasons, a lot of people choose to keep money saved in a financial savings investment, with the aim of trying to ensure its overall security and obtain some return, for example interest, thereby seeing their money grow.

Some of the most common savings applications are **term deposit** accounts or **savings certificates** and **treasury bonds**. But we can also invest our money in other financial applications, as we will see later in this chapter, for example, in **stocks, bonds, investment funds, pension funds, capitalisation life insurance** and **savings plans**.

There are also **current deposit** accounts, intended for day-to-day money management (payments and receipts, transfers, etc.). Sometimes these accounts are used to save small sums of money, but they are not advantageous in terms of return.

What exactly is a term deposit and how does it work?

A term deposit is a money investment in a bank for a specified period of time, according to previously agreed conditions regarding **term**, **withdrawal** and **return**.



As the name implies, this is a deposit with a **term**, which means that the application has a start date and an end date (maturity), which defines the term of the deposit, that is, the time during which the money must be kept in the bank; this term is set by the bank and it may be monthly, quarterly, semi-annual, annual, up to ten years or other type.

Withdrawal is the removal of part or all of the money invested. If the money is withdrawn on the deposit end date, there is no penalty of any kind. If the money is withdrawn before the deposit end date, it is considered an early withdrawal. There are term deposits that do not allow for early withdrawal and others that do allow **early withdrawal** under previously agreed upon conditions with the bank, and those generally impose an interest penalty that has not yet been paid.

Throughout the deposit, the bank pays the client the agreed upon interest, which corresponds to the **payment** received by the client having lent their money to that institution. At the end of the deposit term, the bank refunds the deposited money. Term deposits have guaranteed capital and are protected by the Deposit Guarantee Fund (up to a limit of 100 thousand euros per depositor and per credit institution).

Portuguese law requires the **payment of taxes** on the amount of interest received by the term deposit.

In order to set up a term deposit, we must be holders of a current account. Then, you need to have the minimum initial amount required to open the term account (an amount that can vary depending on the bank) and choose the term that interests us most. In the case of minors, a legal representative is required to open these accounts. Nowadays, it is possible to set up a term deposit from any location with an internet connection.

Current national legislation requires that a 28 % withholding tax be carried out on the amount of interest paid to the customer.

And how do we know how much money we will earn with the term deposit?

There are two acronyms that are very important to learn:

- **GANIR (Gross Annual Nominal Interest Rate)** – is the **interest rate** that term deposits pay. The GANIR indicates how much we will receive, which means that the higher the GANIR, the higher the return on the amount invested. This is an annual fee because it refers to the period of one year, regardless of the deposit term. But be careful that this rate is gross because it does not take taxes into consideration.
- **NANIR (Net Annual Nominal Interes Rate)** – equivalent to the net GANIR, that is, after the taxes on interest received have been paid. This rate allows you to calculate the amount we actually receive.

Let's look at the general formula for calculating interest and an example:

$$I = C \times N \times I$$

I	C	N	I
interest	initial capital	time period	interest rate (in decimal value)

EXAMPLE

RITA
16 years old

Rita invested €1 000 that she won as a literary prize into a term deposit for a period of one year, with a GANIR of 1 %.

Let's see what the return is on this investment before taxes are collected.

Applying the interest formula, we get:

I = 1 000 × 1 × 0.01
So, **I = €10**

So, gross income at the end of that year, will be €10.

But this is not the amount that Rita will actually receive: with this amount, the applicable tax of 28 % needs to be deducted.

The amount that Rita will actually receive, that is, the net interest, is calculated by subtracting the applicable tax portion from the gross interest:

Net interest = 10 – (10 × 0.28) = €7.20

So, Rita will receive €7.20 net as payment for her term deposit of €1 000 at the end of one year.

WARNING

If the deposit is made for a period other than that considered in the annual interest rate, the countdown of days from the deposit date must be made on the *Actual*/360 basis.

For example, with a deposit of €1 000 for six months (180 days) at a gross annual rate of 1 %, we will get:
I = 1 000 × (180/360) × 0.01
I = €5

CASE STUDY

SAMIR
16 years old

Samir has permission from his parents to fulfil his dream of getting a motorbike when he turns 18. Knowing that his parents will not be able to help him, Samir has been saving money for some time now. The motorbike he would like to buy, second-hand, costs around €750. So far, he has managed to put aside €170 in his piggy bank. Every month, Samir plans to collect €20 that he saves from his allowance and what he receives from doing small tasks in his grandfather's workshop. Samir knows that this money he saves with so much effort would be better kept in the bank than on his bedside table and that's why he's been thinking about opening a bank account.

1. Among the following applications, which one is most suitable for Samir's purpose?

TELMA
18 years old

In four months, Telma will travel to London to spend the summer holidays at her cousin's house. Her aunt has offered to pay for the plane trip and her two cousins have big plans to spend the time. Telma estimates that between the concert and museum tickets, some shopping and small expenses, she will need an amount of €500. Since last summer, she has been working on Thursday nights as a babysitter at a neighbour's house and receives €20 per week. With this work, she has already managed to save €200. As Telma knows, sometimes when she has the saved money on hand, she ends up spending it, so she is looking for a long-term application to save her money and obtain a small return.

2. What is the right application for Telma's purpose?

TERM APPLICATION X	TERM INVESTMENT Y	TERM INVESTMENT Z
Term: 92 days (renewable for the same period)	Term: 360 days (renewable for the same period)	Term: 720 days
Possibility of €25 monthly increments	No possibility to increment	Possibility of monthly increments
Opening balance: €200	Opening balance: €50	Opening balance: €200
GANIR: 1 %	GANIR: 2 %	GANIR: 3 %
Early withdrawal subject to interest penalty	Early withdrawal subject to interest penalty	No possibility of early withdrawal

3. Taking into consideration the three applications that were created, with an initial value of €500 in each one, calculate the net payment obtained at the end of the term for each one of the deposits.

Payment of the term deposit (receipt of interest) can be done in two ways: with **capitalisation of interest** and **without capitalisation of interest**.

When capitalisation of interest is made, we are dealing with **compound interest**, which means that the addition (capitalisation) of interest received to the initial capital is made, generating higher interest in the future.

When no capitalisation of interest is made, we are dealing with **simple interest**, which is calculated only on the initial capital, as we have done so far.

Capitalisation means the reinvestment of interest in the initial capital, obtaining newer, larger capital than the initial one, on which the interest will be calculated. This way, in a **deposit with compound interest**, we obtain interest upon interest and capital that increases over time.

EXAMPLE

ULISSES
28 years old

Ulisses invested €1 000 that he saved over the last year in a term deposit for a period of 3 years, with a GANIR of 2 %.

Let's calculate the gross return amount after 3 years with compound interest and with simple interest.

Compound interest

Year 1:

Gross interest = €1 000 × 1 × 0.02 = €20

Capital at the end of Year 1:
€1 000 + €20 = €1 020

Year 2:

Gross interest = €1 020 × 1 × 0.02 = €20.4

Capital at the end of Year 2:
€1 020 + €20.4 = €1 040.4

Year 3:

Gross interest = €1 040.4 × 1 × 0.02 = €20.8

Capital at the end of Year 3:
€1 040.4 + €20.8 = €1 061.2

Simple interest

Year 1:

Gross interest = €1 000 × 1 × 0.02 = €20

Capital and interest at the end of Year 1:
€1 000 + €20 = €1 020

Year 2:

Gross interest = €1 000 × 1 × 0.02 = €20

Capital and interest at the end of Year 2:
€1 020 + €20 = €1 040

Year 3:

Gross interest = €1 000 × 1 × 0.02 = €20

Capital and interest at the end of Year 3:
€1 040 + €20 = €1 060

As we can see, after 3 years, the return is higher with capitalisation of interest.

Isn't that a big difference? Yes, this is true for small amounts, short terms and low GANIR, but for larger amounts, terms and GANIR, compound interest is more advantageous.

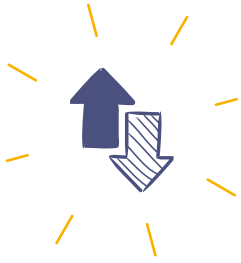
In addition to term deposits, there are other investments meant for saving, such as **savings certificates** and **treasury bonds**.

Both are products of public debt, which means that they are ways for the State to finance itself, that is, people lend money to the State, applying their savings to these products and then subsequently being paid at a certain interest rate.

These are low-risk investments because it is only in the event of the State's bankruptcy that capital or interest may be lost.

In the case of savings certificates, interest is capitalised quarterly. As we have seen, this means that, every three months, the interest earned is incorporated into the accumulated capital, which is therefore compound interest.

In the case of treasury bonds, interest is not capitalised, that is, every year the interest is deposited in a current account, when dealing with simple interest. The invested capital cannot be withdrawn during the first year, but an increasing interest rate applies from the second year onwards.



These two products also differ in terms of the minimum initial amount, the maximum duration of the investment and the rate of return.

THINK ABOUT IT

Think of three goals that you have when you become an adult and whose achievement requires you to make savings. List them.

1. Estimate how much money you will need to save in order to accomplish each of these goals.
2. Plan how you could reach the savings needed to realise each one of these goals.
3. Identify three obstacles that might interfere with your plans. How could you get past them?
4. How do you feel about the goals you initially listed?

What other savings investment products can you invest in?

In addition to term deposits and savings and treasury bonds, there are other savings investment products, such as **shares**, **bonds**, **investment funds**, **pension funds**, **capitalisation life insurance** and **savings plans**.

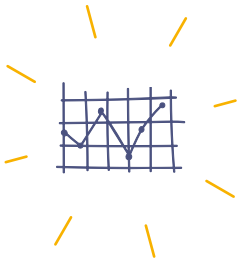
Let's learn about each one of them briefly.

Stocks represent small portions of a company's capital that are offered for sale by the company itself and that can be traded on the capital market. For the companies that issue them, stocks represent a form of financing without resorting to bank credit. For buyers, they are an alternative investment method to the application of savings into a term deposit, with the hope to obtain a higher return. Each holder of stocks (shareholder) becomes part owner of the company. This is advantageous for the company because it has more capital to invest and it is advantageous for the shareholders because they start to receive dividends (amount to be received on the potential company profits).

The share price depends on the expectations formed by investors as to the results (profits) that may be generated by the company in the future. The higher the investors' expectations regarding the company's profits, the more the demand for the shares and, consequently, their price increases.

The return obtained from investing in stocks depends on several factors, including:

- capital gains or losses (gains or losses) associated with changes in stock prices (quotes) at the time of their sale;
- dividends paid (i.e., the portion of company profit paid to shareholders);
- associated taxes.



The capital invested into stock is not guaranteed, due to the changes in stock price that may result in the loss of part or all of the invested capital.

Some of the aspects to consider before purchasing stocks are as follows:

- the recommended timeframe for investing in shares can be long;
- investment in shares carries a high risk;
- it is important for the investment in stocks to be diversified.

Bonds represent a loan taken out with investors, by the entity that issues them (companies, States or other public or private entities). The investor becomes a creditor of that entity when it acquires a bond. Bonds give the holder the right to a periodic receipt of interest during the loan period and to repayment of the capital on the maturity date (maturity).

The return obtained from investing in bonds depends on several factors, including:

- interest payable during the period of bond holding;
- capital gains or losses associated with price changes in the event of sale before maturity;
- associated taxes.

Capital invested in bonds is not guaranteed. The debtor may not be able to honour its commitments to creditors, resulting in a restructure of payments with worse conditions for the creditor than those initially offered; in these cases, there may be a loss of capital initially invested.

Investment funds are collective investment bodies whose financial investments result from the accretion of savings in conjunction with varied investors. An investment fund is a group of savings comprised of a single, autonomous asset and is managed by specialists who oversee its investment into various assets (for example, stocks, bonds, real estate, etc.), according to the strategy defined for the fund.

Each investor owns a share of the investment fund, proportional to the money invested. The money applied to an investment fund is converted into units (small portions, with equal characteristics), of which investors become holders.

A return on this savings investment depends on the capital gains or losses arising from the fluctuation in the value of contributory units and the potential distribution of dividends by the fund. When there is no distribution of dividends, the investor obtains a return only at the time of redeeming the contributory units.

Investment funds do not guarantee invested capital; the devaluations of investment fund assets may generate devaluations and partial or total loss of capital invested in the fund.

Investment funds have two relevant features:

- allow for investment diversification, since this principle is part of the fund strategy, and best practice because it reduces risk;
- allow small investors to access markets and products that otherwise they would not be able to.

A **pension fund** is an autonomous asset, or rather. a set of assets exclusively designed to finance a pension plan. Therefore, pension funds comprise a set of assets whose sole purpose is to provide the future payment of benefits stipulated in the respective plan. The assets that comprise the pension fund portfolio are managed with the goal of capitalising upon the revenue produced.

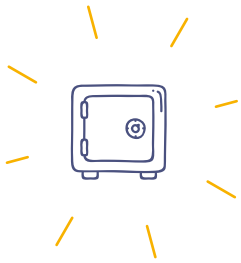
Not all pension funds have guaranteed capital, there are also some which carry the risk of losing capital.

The main advantages of participating in a pension fund are the early accumulation of the means needed to try to maintain the same standard of living after retirement and the tax benefits (reduction of tax payments) associated with this type of savings.

Savings schemes are products intended for medium or long-term savings, which can contribute to supplement retirement or be used to finance the contributor's education or that of a family member.

There are three types of saving schemes: retirement savings schemes (RSS), education savings schemes (ESS) and retirement/education savings schemes (R/ESS).

Savings schemes have tax advantages, since it is possible to reduce taxes for a portion of the amount invested in these products. However, in some circumstances, if the amount invested is withdrawn before the contractually stipulated date, the tax benefits obtained with the investment will have to be returned to the State.



Early repayment without penalties is only possible under specific conditions, including retirement age (does not apply to RSPs), from 60 years of age (does not apply to RSPs), long-term unemployment, serious illness, higher education or attending a professional course of study (does not apply to ESP), permanent disability for work and payment of housing credit instalments.

Some savings plans guarantee the capital invested. In others, there is a risk of losing part or all of that capital.

There are savings plans that guarantee a pre-defined return, which is fixed over the duration of the contract. Others do not have this guarantee, and the return may be lower than expected.

Capitalisation life insurance is a product designed for medium-term savings. They are very flexible products, through which the amount to be paid (premiums) is fixed, in order to create the desired savings. They generally allow single or periodic deliveries in a relatively small value.

In many cases these products offer capital guarantees, which limit the risk of investing savings into products that have these characteristics. Like savings plans, they have greater tax advantages than other products.

As we have seen, the range of savings investment products is varied. The choice of one or more of these products should be well informed and deliberate, taking into account two essential aspects:

- **expected return** on the product in which one is going to invest;
- **risk associated** with that product, in regard to the maintenance of invested capital and return on the investment.

The relationship between these two aspects, return and risk, is as follows: **the higher the risk associated with a savings investment product, the higher the expected return**.

Risk can be classified in different ways:

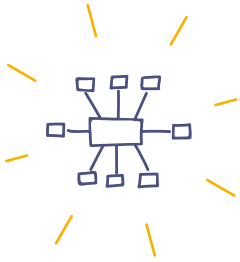
- **Liquidity Risk**: it is the risk of needing the money that was invested before the end of the contracted term and not being able to access it (as is the case with term deposits without early withdrawal) or incurring costs to do so (as is the case with RSPs);
- **risk of return**: it is the risk that the return of money invested is not as expected or is null (for example, stocks, bonds, investment funds...);
- **market risk**: is the risk that a financial product traded on the market loses value, due to changes in market prices (or interest rates), (for example, the drop in share value for a certain company);
- **capital risk**: is the risk of losing some or all of the savings invested into the financial product; there are products that do not have this risk because they have a capital guarantee (this is the case with term deposits);
- **credit risk**: is the risk of bankruptcy or insolvency by the entity to which the savings have been invested (for example, bonds from an issuing entity that may become insolvent). In the case of term deposits, this risk is covered by the Deposit Guarantee Fund up to a certain amount;
- **foreign exchange risk**: is the risk of losing money at the end of the term for an investment in foreign currency, by converting it to the national currency.

When we invest savings in financial products, we should be well informed about the risks associated with each of the products we are considering acquiring. We should also be well informed about the expected return for each one of them.

We should also bear in mind the **principle of product diversification**, which teaches us that a diversified set of products (diversified portfolio) can balance and minimise the risk of investments by presenting products with varying degrees of risk/return and different maturities.

Before investing savings into an investment product, each investor must know their risk profile. The **investor's risk profile** must be defined by the marketing entity, taking into account the particular aspects of each investorr:

- your financial situation (the capital available to you);
- their knowledge of financial products (understanding the characteristics and risks of available products);
- your investment goals (rapid return on capital, preservation of accumulated capital);
- the timeframe for your investment (the period in which you want to obtain a return or can withdraw the invested capital);
- your tolerance for risk (the way you confront the possibility of losing some assets).



Not all savings investments are suitable for every investor. If the profile of each investor has been taken into account, the choice of their investment portfolio will be better suited to their particular situation and their specific needs.

THINK ABOUT IT

Which savings investment product would you choose in the following cases?

1. Vanda, 56 years old, doctor, in a comfortable financial situation based on a net income of €4 000 per month. She wants to invest €25 000. She does not expect to need the value of these savings in the short-term. She is not amenable to many risks with this investment and she intends it to supplement her retirement.

2. Xavier, 35 years old, bank manager, no children, no credit debt. He has €10 000, wants to invest these savings and expects to get a good return within 5 years. He is amenable to taking risks, once he manages to cover all of his fixed expenses with his salary and also save €1 000 per month.

3. Yuri and Zélia, 22 and 23 years old, partners, live together in a rented house. They have savings together of €6 000. They intend to invest the savings they have in order to monetise it and strengthen it in the amount of €500 per month. They hope to be able to gather within 5 years, the amount necessary to use as a down payment for a house of their own. They are not amenable to taking risks.

EXERCISES

1. Mention three advantages of keeping your savings in a bank instead of keeping them at home. 15 pts

2. Your music-streaming subscription costs you €8 per month, which you pay with your allowance. But you have the ability to subscribe annually for the amount of €72.

2.1 If you choose to pay for the yearly subscription, how much less do you pay at the end of the year? 15 pts

2.2 How many months do you have to save for the monthly subscription fee to pay for the one-year subscription? 15 pts

2.3 Indicate an advantage and a disadvantage in opting for a one-year subscription. 10 pts

3. Look in the table at the conditions implemented by different banks for three term deposits.

BANK	MINIMUM AMOUNT	TERM	APR
A	€100	3 months (renewable; no early withdrawal)	0,6%
B	€250	6 months (renewable; no early withdrawal)	0,8%
C	€500	1 year (no early withdrawal)	1,0%

3.1 Imagine you have €110 to start your savings. Which bank can you choose? Why? 10 pts

3.2 With a starting capital of €500, calculate the gross interest on each deposit after one year. Assume that there is no capitalisation of interest. 15 pts

3.3 If you are afraid you might need your money at a moment's notice, what deposit would you choose? 10 pts

3.4 Have you noticed that interest rates are higher with the longer deposit term? Why is that? 10 pts

4. Ana, a year 11 student, has a term account that was opened by her parents for her first birthday, where she deposits the amounts she receives from family members on her birthday and Christmas. This account contains €2 200.

4.1 Calculate the amount of gross interest that will mature in the next 6 months, at an annual rate of 1.5 %. 5 pts

4.2 Calculate the amount of net interest that Ana will receive at the end of the 6 months, knowing that interest on term deposits is subject to a rate of 28 %. 10 pts

5. Bernardo and Carlos are brothers and have the same amount of €5 000 to invest in a term deposit with an GANIR of 2 %. Bernardo wants to use the interest on this investment to help pay his monthly condominium expense. Carlos does not expect to need the amount he earns from interest and wants to fully capitalise on the amount invested.

5.1 Indicate which of the siblings should opt for a deposit with compound interest. 10 pts

5.2 Compare the amount received by the two brothers in gross interest at the end of 3 years. 20 pts

6. Mark the following statements with a T (true) or F (false): 25 pts

a) Stocks are debt securities issued by an entity, company or the State and they represent a loan to the entity that issues them.

b) In term deposits, there is a return of the money invested plus interest.

c) An investment fund is the grouping of an autonomous asset formed exclusively by a portfolio of stocks.

d) The capital invested in bonds is not guaranteed.

e) Retirement/education savings schemes are intended for medium or long-term savings that can be used to finance the holder's education.

7. There are risks associated with all savings investments. Match each situation with the associated risk. 10 pts

market risk **risk of return**
liquidity risk **credit risk** **capital risk**

A. By investing in stocks and investment funds, there is the possibility of losing part or all of the amount invested.

B. Some deposits do not have the capacity for early withdrawal.

C. By investing in investment funds, the return may be lower than expected or even nil.

D. Investments in bonds are subject to bankruptcy by the issuing entity.

E. The disclosure of economic indicators with implications in the near future for the automotive industry has affected the stock price of car manufacturer, General Motors.

8. Read the different investor profiles and match the best savings investment option to each situation. 20 pts

Situation 1:

'I don't mind having a lower return, but I want to invest my money in a medium-term product where I don't risk losing the initial amount.'

Situation 2:

'The most important thing for me is to achieve high profitability. I'm willing to take risks and wait for the best time in the market to sell at a good price.'

Situation 3:

'I want to invest in stocks and bonds and I think risk diversification is important, but I am not an expert in analysing these markets.'

Situation 4:

'I want to make a long-term investment and I'm willing to invest in a product without early withdrawal.'

A. Stocks

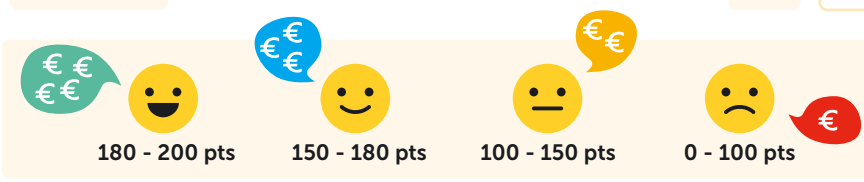
B. Pension funds

C. Term deposit

D. Investment funds

Self-assessment

Total



3 CREDIT

HOW CAN WE CHOOSE THE BEST CREDIT OPTIONS?

Deolinda is a mother of two 6-year-old twin girls and has been saving monthly over the past few years in order to buy a house closer to the workplace and her daughters' school. In this way, she will be able to fulfil her dream of having a bigger house and still improve her household by reducing the amount of commuting she currently does, thereby saving time and money.

To buy the house she has in mind, Deolinda will have to resort to credit and has been informed about several options available in order to recognise the impact they will have on her monthly budget and then take the best option. She must be sure that she can pay the monthly instalments for the credit she needs not only in the first few months, but over the duration of the loan.

Since her only source of income is her salary, Deolinda has to take into account the possibility of an unforeseen event, such as becoming ill or unemployed and, in that case, not being able to afford the loan, which will have serious consequences for her household.

Some of the goals we have for our lives involve recourse to credit, so completely knowing our options and their consequences is essential.

IN THIS CHAPTER WE WILL EXPLORE TYPES OF CREDIT AND LEARN ABOUT THE COSTS AND RESPONSIBILITIES THAT ARE ASSOCIATED WITH THEM.

FINANCIAL NEEDS AND CAPABILITIES

Sometimes, we need to make an expense for which we have no money available. One option to get the money we need is to take out a loan. To do this, we can turn to friends or family or apply for **credit** from a banking institution.

By resorting to credit we are borrowing money to anticipate the consuming goods or services that we otherwise could not obtain and we are committed to returning the money later. In general, we will have to pay back more than what we borrowed, that is, we will have to pay **interest** and **other charges** for borrowing the money. So, most of the time, we pay more for the product or service, because of the interest payment.

WARNING

To apply for credit you must be at least 18 years old.

To buy a house or a car, for example, it is normal to resort to credit, since they involve high amounts, which we often do not have available. However, to purchase a trip or a mobile phone, the option of resorting to credit may not be recommended.

There are advantages and disadvantages to taking out credit:

ADVANTAGES	DISADVANTAGES
Allows for the purchase of higher value goods or services	Payment of interest and other charges
Allows you to anticipate consumption	Limitation of consumption capacity in the future
	Risk of over-indebtedness

Before resorting to credit we should consider:

- if the purchase actually corresponds to a **need**;
- if we have the **financial capacity** to pay it, that is, if we have income that allows us to pay what we owe on time (the money we ask for, plus interest and other charges).

To understand the importance of these two aspects, let's think about buying a good that corresponds to a need, for example the purchase of a house.

In this case, recourse to credit has had a significant impact on the individual or family budget for many years, so it is important to keep in mind that it is not enough to be able to pay the loan today and in the coming months; we must have some security about our future income and our ability to continue to pay the money we owe over time.

So before using credit we have to think about the responsibility we are taking on until the end of the agreed repayment period. As we saw in Chapter 1, our budget must provide for an adequate margin of **available income** after paying the loan payment, to accommodate all fixed expenses, variable expenses, and to build up savings.

In fact, when taking out a loan, the payment of the instalment becomes another fixed expense in our budget throughout the duration of the loan.

A useful indicator for understanding whether we can obtain credit is the **effort rate**. The effort rate measures the impact of loans on aggregate household income. It is expressed as a percentage.

$$\text{EFFORT RATE} = \frac{\text{MONTHLY EXPENDITURE ON LOANS}}{\text{MONTHLY NET INCOME}} \times 100$$

CASE STUDY

FAMALICÃO FAMILY

The Famalicão family has two children, one in 2nd stage of basic education and the other in kindergarten. Mum and dad work and together they have a total net monthly income of €2 000. The paternal grandmother lives with the family and has a pension of €500 that is also accounted for in the household budget.

The Famalicão family wants to buy a bigger house. After analysing the family budget, they concluded that they could not have a monthly payment higher than €600 per month on a mortgage loan.

GUIMARÃES FAMILY

In the Guimarães family, mum's net salary is €1 300 and dad's is €1 200. This family has a 9-year-old daughter who goes to public school in the neighbourhood where they live.

The Guimarães family lives in a rented house and wants to buy a house of their own in the same neighbourhood. The family used a credit simulator and realised that for the house they intend to buy, they will have to pay a monthly amount of €600 as a mortgage payment.

1. Calculate for each family:

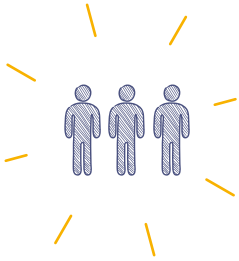
- **a)** Effort rate.
- **b)** Disposable income after the payment of the mortgage loan.
- **c)** Disposable income for each member of the household unit.

2. Is it enough to know the effort rate to decide if a family is able to take out a mortgage loan? Justify it.

From the previous situation, it is to be concluded that **there is no single effort rate that is appropriate for all families**, since the appropriate effort rate depends not only on income, but also on the household, that is, it depends on the number of people who make up the family. After all, the expenses to be borne by the family such as food, education, transportation, etc. will be very different if it has three (as in the case of the Guimarães family), five (as in the case of the Famalicão family) or more members!

We can then conclude that:

- families with higher incomes have a capacity to bear a higher effort rate than other families with lesser income, since disposable income after payment of loans is higher;
- the higher the total number of people in the household that depend on disposable income after payment of the loan instalments, the lesser the effort rate should be.



THINK ABOUT IT

Hélia is a university student and surfs in her free time. Her board is getting old and Hélia is saving up to buy a new one. Per month, Hélia manages to save €50 to buy the board. She has already managed to save €350, but the board she would like to buy costs €600. When she manages to buy the board, she is thinking about starting to teach as an instructor in the sport, which will allow her to earn some money and, after a short time, recuperate the amount she invested in the board.

To get the missing amount, Hélia is weighing the following options:

A. Save until she has €600 to buy the board.

B. Borrow the money from family members.

C. Apply for credit at a bank.

1. Help Hélia make a decision by making a list of the pros and cons for each option.

TYPES OF CREDIT

3

Now let's learn about the most common credit products and their features.

Mortgage loan

This is a **long-term loan** for the purchase of a property, so it is a financial commitment that will have an **impact on the household budget for several years**. It can be contracted to purchase or build a permanent or secondary residential property or residential leased property, or to acquire land for housing construction.

Consumer credit

It is credit intended for the **purchase of consumer goods and services** such as: cars, computers, furniture, equipment for the home, education or health services. It is usually credit in a **smaller amount and for a shorter term** than a mortgage.

There are several types of consumer credits, each with different purposes:

- **Personal credit** – is a type of credit arrangement for personal purposes (education, health, home, projects...);
- **Car loans** – is credit intended for the purchase of vehicles, new or used;
- **Credit card** – is a revolving credit available through a card that has an associated maximum credit limit (ceiling). Payments made with this card are reflected in an account (card account) and, after a certain period, the total amount outstanding is calculated. To pay this debt, the customer can choose to pay in full at the end of the month (no interest) or to pay a fraction of the debt over several months (with interest).
- **Overdraft facility** - is a credit associated with a current deposit account that allows the customer to use funds beyond the balance of that account, up to a maximum limit (ceiling) set by the bank.

When we use credit, the bank may require us to provide guarantees to ensure that the money borrowed is repaid.

In the case of consumer credit, banks usually require less collateral than in the case of mortgage loans, where they normally ask the customer to provide the property itself (mortgage) as collateral. In addition to this guarantee, the bank may also require life insurance or guarantors.

Let's distinguish between these types of guarantees.

The **mortgage** is a guarantee that falls on an asset. In the case of a home or car loan, it is imposed upon the housing or vehicle purchased through the credit. If the debtor fails to pay the credit instalments, the bank can file a lawsuit in court so that the asset (the house or the car) is seized and then sold. The money resulting from this sale will be used to pay the outstanding loan amount to the bank.

If the sale amount for the property is not enough to pay off the outstanding debt, including the capital and interest, the client's remaining assets can also be used as payment of the outstanding debt.

With a mortgage loan, in order to reinforce guarantees, the bank may also require the customer to take out a life **insurance** policy to cover the amount owed to the credit institution, for example, upon death or permanent disability for work.

The **guarantor** is a person other than the customer who endeavours to pay the debt if the customer does not. It is important that the guarantor has confidence that the debtor will fulfil the contract and pay the instalments every month. Usually, the client asks family or friends to be their guarantors.

WARNING

The guarantor must know that they are making a commitment that involves a high risk to them. If the debtor fails to pay the instalments to the bank, the guarantor will have to answer for this debt with their own assets.

THINK ABOUT IT

Luís is 21 years old and wants to buy a house. The bank demanded a guarantor as a condition for granting the credit.

1. Can Luís's younger brother, who is a secondary education student, be guarantor? Or a friend who is unemployed and has no income? Will the bank accept anyone as guarantor?

COSTS OF CREDIT

3

Taking out a bank loan can have a number of **associated costs**, which means that the total amount to be paid to the bank will be higher than that borrowed.

EXAMPLE

ÍRIS
26 years old

Íris studies Music at the Conservatory and is thinking about asking for a personal loan of €10 000 for 48 months, with an annual interest rate of 10.7 %, to form a band.

Not considering other expenses that Íris may incur with the loan, in order to find out the total amount of interest that she will have to pay at the end of 48 months, we can resort to a credit simulator, like the one available on the 'Todos Contam' website, then we get:

I = €2 435.71

So, the total amount due by Íris for the €10 000 loan, during the 48 months, will be equal to:

Total amount due = €10 000 + €2 435.71 = €12 435.71

The interest rate that the bank charges for the credit disbursement is the **Annual Nominal Rate** (ANR). In Íris' example, the interest rate was the same throughout the term of the loan, or rather, it was a **fixed interest rate**, but this is not always the case!

Most large loans, whose payment is made over long periods of time, such as mortgage loans, have a **variable interest rate**. The choice between a fixed interest rate or a variable interest rate is, in fact, one of the most important decisions when taking out a mortgage loan.

In **home loans** with a **variable interest rate**, the interest rate of the loan is the result of the sum of two components:

ANR = **INDEXATION** + **SPREAD**

- The **indexation** or reference rate is the **Euribor** and it has several terms, as Euribor 3, 6 and 12 months, primarily used in mortgage loan contracts. The Euribor value to be used in the loan is revised after the term to which it refers. For example, the 3-month Euribor is revised quarterly, the 6-month Euribor bi-annually and the 12-month Euribor annually. When the Euribor value is revised, the interest rate on the loan may rise or fall; the instalment amount may therefore increase or decrease, respectively. Only rarely does the Euribor value not change.
- The **spread** is freely defined by the bank for each credit contract, taking into account the associated risk, the ratio between the value of the loan and the value of the property and the guarantees given by the customer (e.g. mortgage or personal guarantee). Some banks grant a reduction in the spread on mortgage loans to customers who also purchase other financial products or services.

In contracted **fixed interest rate** loans, the interest rate of the loan is always the same and the instalment does not change during the term of the contract. This means that if the Euribor rate rises or falls in the meantime, the loan payment is maintained: the customer is protected from the rise of the Euribor, but does not benefit from its fall.

This interest rate is freely established by the bank in each contract and takes into account the risk of fixing the interest rate for a relatively long period. That is why, under normal market conditions, the instalment for a fixed interest rate loan at the beginning of the loan is higher than the instalment indexed to Euribor. With this type of rate, the customer pays a higher price for the security of not having their instalment increased.

There are also some loans with a **mixed interest rate**, which means that there are periods when the rate is fixed and others when the rate is variable. For example, a 30-year home loan can have a fixed rate for the first 5 years and a variable rate, indexed to Euribor, for the remaining 25 years.

CASE STUDY

JOÃO E KIRA

João and Kira are a young couple and want to buy their own house. They saw an apartment that they liked and suits their needs, which costs €190 000. Over the last few years, they have managed to save €19 000 for this purpose, which they will use for the purchase of the apartment. To pay the remaining amount, they will have to take out a bank loan.

After consulting several banks and analysing different proposals, they were in doubt among the type of interest rate to choose:

FIXED INTEREST RATE	VARIABLE INTEREST RATE	MIXED INTEREST RATE
Loan amount: €171 000	Loan amount: €171 000	Loan amount: €171 000
Duration of the loan: 30 years	Duration of the loan: 30 years	Duration of the loan: 30 years
ANR = 3.4%	Variable rate indexed to Euribor 12 months, with ANR = 2.2 %	Fixed interest rate in the first 5 years, with ANR = 2.7 % Variable interest rate over the next 25 years, indexed to Euribor at 12 months..
Monthly instalment of €758	Monthly instalment in the first 12 months of €649	Monthly instalment in the first 5 years of €694 Monthly instalment dependent on the Euribor for 12 months during the next 25 years – which, at the current rate, would correspond to €656

1. Indicate an advantage from a fixed interest rate and a variable interest rate.
2. Consider that the Euribor remains constant over the 30-year term of the loan and calculate the total amount that João and Kira will pay for the loan in each case.
3. Based on the answer to question 2, what would be the best type of interest rate for João and Kira?
4. In reality, the best type of interest rate may not be the one chosen in question 2. Explain why.

In addition to the interest rate, there are other **charges** associated with credit agreements, such as **fees**, **expenses** or **insurance**.

- **Fees** are amounts charged by the bank as a form of repayment for the service provided (evaluation of the property, formalisation of the contract, etc.).
- **Expenses** are amounts charged by the bank to pay third parties on behalf of the customer, such as payments to registry offices or taxes (stamp duty, VAT...).
- The bank may also require the customer to take out certain **insurance** policies when applying for credit, namely life insurance.

Whenever we think about taking out credit, we should assess the various options from institutions and understand the main differences between them. To do this, there are two acronyms that are very important to learn:

- **Annual Percentage Rate of Charge (APR)** – represents the **total cost of the credit**, encompassing interest costs (ANR) and other charges imposed by the bank. It is expressed as an annual percentage of the total credit amount.
- **Total Amount to be Reimbursed (TAR)** – corresponds to the **overall amount that the customer pays for the loan**, or rather, it is the sum of the loan amount and total costs.

$$\text{TAR} = \text{LOAN AMOUNT} + \underbrace{\text{(interest + fees + expenses + insurance)}}_{\text{TOTAL COST OF CREDIT}}$$

The APR and the TAR should be used to compare credit proposals that have identical characteristics (requested value, term, form of reimbursement), but different costs.

EXAMPLE

MANUEL
37 years old

Manuel saw his family grow with the arrival of a son and he needs a bigger car. He looked at several car credit simulations for a €15 000 loan at 5 years and opted for the following:

Amount of the fixed instalment	€288.04
Total amount of interest (with stamp duty)	€2 282.59
ANR	5.5%
APR	9.4%
Formalisation fee	€450
File fee	€36.58
Stamp duty on the use of credit (outstanding capital × stamp duty)	€396
Life insurance	€5 / month

What will be thetotal amount to be reimbursed to the consumer at the end of the contract (TAR)?

1. Let's start by calculating the total amount of charges associated with this credit:

   The value of this portion is equal to the sum of fees (plus 4 % stamp duty), expenses and insurance. Whereby:

   Fees = €450 + €36.58 = €486.58

   Stamp duty on fees (4 %) = €486.58 × 0.04 = €19.46

   Stamp duty on the use of credit = €396

   Insurance = €5 × 60 = €300

   Therefore, the **total amount of charges** is equal to:

   €486.58 + €19.46 + €396 + €300 = €1 202.04

2. Let's now calculate the total cost of credit:

   Total cost of credit = Interest + Charges

   Total cost of credit = €2 282.59 + €1 202.04 = €3 484.63

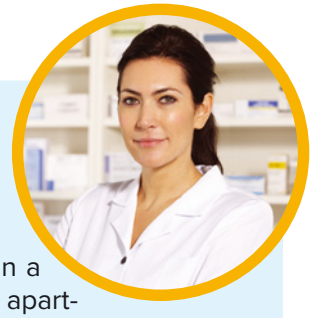
3. Let's now calculate the value of the TAR:

   TAR = Loan amount + Total cost of credit

   TAR = €15 000 + €3 484.63 = €18 484.63

   Therefore, Manuel will pay €18 484.63 for this loan, at the end of 5 years.

CASE STUDY



NOÉMIA
31 years old

Noémia has been working for 7 years as a pharmacist in a hospital. For some time she has been looking for a small apartment to buy and turn the amount of rent she pays for the house where she lives into a mortgage loan instalment. After consulting several banks, she is considering the following two proposals for a €150 000 loan at 30 years:

- **Proposal 1:** 2.8 % ANR, initial fees of €500 and monthly insurance of €50.
- **Proposal 2:** 3 % ANR, initial fees of €300 and monthly insurance of €25.

PROPOSALS	MONTHLY INSTALMENT	TOTAL MONTHLY CHARGE (INSTALMENT AND INSURANCE)	APR	TAR
Proposal 1	€616.34	€666.34	3.5%	€241 303
Proposal 2	€632.41	€657.41	3.4%	€237 878

1. Which one of the credit proposals seems most advantageous to Noémia? Why?

CREDIT RESPONSIBILITIES

As we have seen, when we take out credit, we have the obligation to return the borrowed money, plus interest and other charges.

The bank, in turn, has the responsibility to report credit in excess of €50 to the Banco de Portugal. To do so, it has to register information about the credit granted, namely the name of the client and the amount of the loan, in a database called **Central Credit Register (CCR)**.

If the customer defaults, this situation is registered in the CCR and may limit that customer's access to new credit. Therefore, the CCR allows credit institutions to obtain information about a customer (know about all the credit they have and whether they are in good standing or not), in order to assess the risk of granting new credit to that customer.

Bank customer information comprises their **credit responsibility map** and can be obtained on the Banco de Portugal 's website by the client themselves.

Non-payment of credit contract instalments has serious consequences for customers and their household unit. When the customer does not pay the loan on the agreed upon date, the customer is in default. In this case, in addition to the overdue instalments, you will have to bear the payment of other costs that the bank will require:

- default interest payment;
- fees for each unpaid instalment;
- expenditures the bank has incurred with third parties on behalf of the customer.

In case there is a guarantor of credit, the bank can demand debt payment from the guarantor and in case there is a mortgage on a property, the bank can demand a forced sale of the property to refund the credit. The bank may also initiate legal proceedings, which may end with the confiscation of the customer's income or assets.

If the customer **anticipates that they will not be able to pay** their credit instalments, they should notify the bank immediately. The bank will assess the customer's situation and provide, where feasible, payment solutions appropriate to their current financial capacity, objectives and needs.

EXERCISES

1. Ester finished her master's degree and started working as a nurse. To make it easier to travel on shift days, she is thinking of buying a car. Which one of the following options do you consider best for Ester to buy the car? Why? 20 pt

A. Define a monthly savings plan to buy a used car a year from now.

B. Borrow money from family members to buy a used car.

C. Take out credit to buy a used car.

D. Take out credit to buy a new car.

2. Monthly income for a family of three is €2 000 and their loan charges total €450 per month.

2.1 What is the effort rate of this family? 20 pts

A. 20.5% **B.** 25.5% **C.** 22.5% **D.** 25.2%

2.2 What is the disposable income for each household member after the loans have been paid? 20 pts

A. €816.7 **B.** €516.7 **C.** €1 550 **D.** €650

3. The higher the effort rate... 10 pts

A. the higher the number of fees charged in the credit agreement.

B. the lower the interest rate provided for in the credit agreement.

C. the greater the financial capacity to react to a sudden increase in expenses.

D. the lesser ability to sustain unforeseen financial events.

4. What is the spread? 10 pts

A. Total interest rate charged on a loan.

B. Interest rate set by the credit institution depending on the amount of the loan.

C. Accrual established by the bank, against a reference interest rate (indexation), which may vary from customer to customer.

D. Accrual established by the bank, against a reference interest rate (indexation), which is the same for all customers.

5. The Oliveira family wants to buy a computer and a printer that cost €1 000 to support their son's school work. To pay for these supplies, they need to use credit and are thinking about using a credit card. The credit card has an ANR of 10 % and allows them to choose between different refund arrangements.

OPTION	REPAYMENT ARRANGEMENT	TERM UNTIL DEBT SETTLEMENT	INSTALMENT	TOTAL INTEREST AND STAMP DUTY
1	In full (100 % of the debt amount)	1 month	Single instalment of €1 000	€0
2	25 % of the debt amount	16 months	1st instalment of €250	€31.70
3	10 % of the debt amount	32 months	1st instalment of €100	€92.19
4	€50 per month	23 months	Instalments of €50	€118.84

5.1 Analyse the information of credit card repayment arrangements and identify the one with the highest and lowest associated cost. 10 pts

5.2 What are the advantages and disadvantages of each repayment arrangement? 20 pts

5.3 Knowing that the Oliveira family only has €200 available per month to pay this debt, what arrangements can they choose? 20 pts

5.4 At the store, as an alternative to a credit card, they were offered a personal loan for 12 months, with a ANR of 6 % and initial fees of €10, which corresponds to a monthly instalment of €86.18 and a TAR of €1 070.92. What credit option would you advise the Oliveira family to take? 30 pts

6. With a 30-year home loan of €100 000, at a fixed rate of 2 %, the following fees are charged at the beginning of the contract:

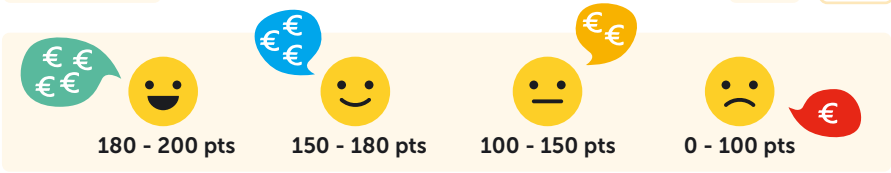
– Assessment fee: €250.00
– Administrative fees: €300.00
– Fee for conversion of temporary registration into permanent one: €50.00

6.1 Knowing that the stamp duty rate on fees is 4 %, calculate the amount of tax in relation to these fees. 20 pts

6.2 Calculate TAR on this loan, knowing that the following costs will also be incurred during the contract: 20 pts

– Interest: €33 063.01 – Insurance: €50.00/year
– Stamp duty on the amount of credit: €600.00

Self-assessment Total



4 INSURANCE

WHAT RISKS CAN I BE PRECAUTIOUS ABOUT?

Pedro has been saving up to buy an all-terrain bike. After choosing the model he would like to buy, he compared prices and found one for €299.

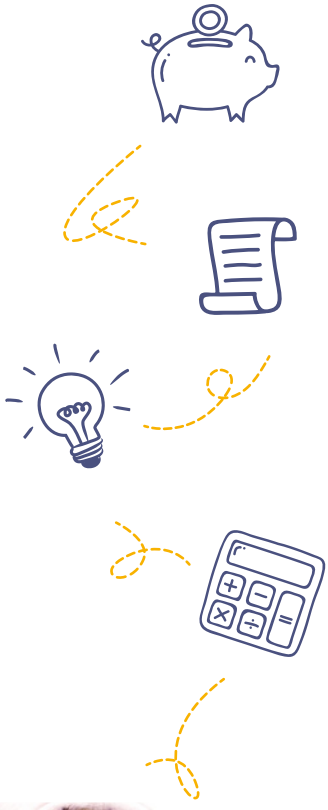
Over the past year, he has saved a portion of his allowance and the money his grandparents have given him for Christmas and his birthday and now he has an amount of €340 in his piggy bank, so he will finally be able to replace his old bike.

At the store, the seller asked him if he wanted to take out insurance to protect the new bike in case of theft, robbery or accidental damage, valid for 2 years, in the amount of €35.

Pedro still had many doubts... On the one hand, it cost him so much to save the money to buy the bike, so he considers it prudent to protect himself from the possibility of it being stolen or robbed. On the other hand, if he is careful, it will reduce the risk of accident and theft, although that risk does not disappear.

We can protect ourselves from financial losses arising from unforeseen day-to-day situations by buying insurance.

IN THIS CHAPTER, LET'S GAIN A BETTER UNDERSTANDING ABOUT WHAT INSURANCE IS AND HOW IT WORKS AS WELL AS LEARN ABOUT DIFFERENT TYPES OF INSURANCE.



INSURANCE CONTRACT

4

Over the course of our lives some events are expected, but there are also **risks and unforeseen events** - a car accident, a breakdown of an appliance, an illness... In order to prevent the possibility of a future unforeseen event from happening and to be able to cope with unexpected expenses, we have already seen that we should save whenever possible. We can also take out an insurance policy or many, because with the payment of a relatively small amount we can avoid much higher losses, by which savings would not always be an option.

Unlike savings, which can be withdrawn for any purpose, insurance is bought for specific purposes – for example, we can take out insurance to cover unexpected expenses with our car, but the same insurance will not cover unexpected expenses of another nature (with our housing, for example).

Insurance can cover risks relating to **material goods** (such as a house or a work of art), **intangible assets**, **credits** and risks relating to a person's life and health.

There are several reasons to take out insurance, some include obtaining peace of mind, avoiding expenses greater than our budget can withstand and preserve our savings.

Insurance is a contract through which someone transfers the risk of financial losses to an insurance undertaking, which may result from unforeseen situations. In return, the person pays the insurance undertaking a certain amount (the insurance premium).

The insurance undertaking assumes the coverage of certain risks, committing itself to pay for losses that may result from this situation, in agreed upon terms.

THINK ABOUT IT

1. The English language has several proverbs and idiomatic expressions that speak about the care to be taken when confronting risk. An example is the proverb 'Better safe than sorry'. What do you think it means?
2. As a group, list other examples and discuss their meaning with your colleagues.

Before taking out insurance, it is important to know the following terms:

- **policyholder** – person who takes out the insurance, being responsible for the payment of its cost;
- **insured person** – person of interest by which the insurance is taken out;
- **insurance undertaking** – institution that bears the risk and endeavours to pay the indemnities or benefits provided for in the contract up to the limit of sum insured;
- **risk** – uncertainty associated with a future event, as to its occurrence when it happens or the damages resulting from it;
- **coverage** – set of situations guaranteed in the contract;
- **claim** – event or series of events that result from the same cause and trigger coverage of the risk foreseen in the contract;
- **sum insured** – is the maximum amount paid by the insurance undertaking in the event of a claim, even when the loss incurred is greater than this amount;
- **exclusions** – situations not covered by the contract;
- **premium** – is the cost of insurance;
- **compensation** – amount payable for losses arising from a claim covered by the contract;
- **deferred period** – period between the conclusion of the contract and a certain date from which the coverage becomes active, that is, when it can be used;
- **deductible** – the damage caused in a claim is not always fully covered by insurance undertakings; the deductible is the amount that is borne by the insured person in the event of a claim.

Insurance can be **mandatory** – when its subscription is required by law, as in the case of motor vehicle liability insurance, fire insurance or work accident insurance or other optional ones.

PUT INTO PRACTICE

- **Be aware of the risks** to which you are exposed and take preventative measures whenever possible.
- You can't always avoid an accident or an unforeseen event, but **you can protect yourself from financial losses when taking out insurance**.

Before taking out insurance, what should we know?

1 Understand the basic concepts

The first step is to learn the meaning of the terms we have just introduced.

2 Be well informed

In order for insurance to meet our needs, it is important to be well informed about the risk to be covered as well as the extent of coverage you want.

3 Provide accurate information

We must strictly comply with informational duties. It is only possible for the insurance undertaking to properly assess the risk to be covered, and decide whether to accept it or not, if it knows all the necessary information for this purpose. For this reason, no false statements or omission of relevant information should be provided. These situations can have serious consequences, such as the cancellation of the contract and the non-coverage of a claim.

4 Enter simulations and compare prices

Whatever may be the risk we want to transfer, we should compare prices and enter simulations into different authorised insurance undertakings and find out which product best suits our needs. When making this comparison, it is very important to pay attention to the extent of coverage intended, since a higher level of coverage generally implies that insurance is more expensive.

5 Verify that the insurance undertaking is authorised

To prevent fraudulent situations, we must verify that the insurance undertaking we choose is authorised to operate the type of insurance required. This verification can be done using the 'Entities Authorized' tool available on the ASF - Insurance and Pension Funds Supervisory Authority website.

CASE STUDY

RAQUEL AND SALVADOR

Raquel and Salvador are parents of three boys aged 3, 7 and 12 years old. Two years ago, they had a lot of health care expenses and, concerned about the risks their children are exposed to at this stage of growth, they have decided to extend their health insurance to include their three children.

The insurance covers hospitalisation costs up to a limit of €15 000, outpatient care up to a limit of €2 500 and dentistry up to a limit of €500. The waiting period for hospitalisation is 90 days and for dentistry it is 60 days.

The contracted option is the same for the three children:

Annual premium	€234
Outpatient care: - Deductible - Medical appointment - Medical emergency Dentistry: - Medical appointment - Prostheses and orthotics	 €50 €15 €35 €15 50%
Diagnostic tests and treatments	Look at amounts on the insurance undertaking's website

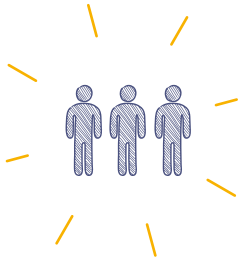
In the last year, the youngest son has been to three paediatric appointments. The middle child only went to one paediatric appointment and one medical emergency appointment. The oldest son fell while playing football with his friends and needed a medical emergency appointment and 20 physical therapy sessions, in addition to two medical appointments. In addition, all the children went to one dentistry appointment.

In the past, Raquel and Salvador paid €80 for each paediatric or specialty appointment and €90 for each dentist appointment. For the emergency services, they went to the National Health Service, going to the public hospital in their area of residence. In this case, children are exempt from payment of a moderator fee.

1. Knowing that the insurance was taken out on 03-01 of that year, on what date could Raquel and Salvador's children use the dental coverage?
2. How much did the couple spend last year on health care expenses for each of their children? Consider that for each physical therapy session, they paid €3.05.
3. How much would they have spent on each of their children if they had not taken out health insurance? Consider that for each physical therapy session, they would have to pay €25.
4. Compare the amounts you obtained in the two previous questions.
5. At the dentistry appointment, the older son was prescribed the use of braces within 1 year. Given the prescription, Raquel and Salvador are considering this expense in their budget for the coming months. The budget for the braces is €1 500 and includes routine appointments. How much will Raquel and Salvador pay for the braces, given the dentistry coverage they took out?
6. Do you think it was a good decision to take out insurance for Raquel and Salvador's children?

As we have seen, taking out an insurance policy builds a safety net for people and their assets, as it allows for the payment of a relatively small amount (insurance premium) to prevent far greater financial losses. That's what we just found out in the case of Raquel and Salvador.

Insurance works this way based on the **principle of mutualism**, which consists in the division of financial losses among a large number of people, so that each person assumes only a small part of that cost.



How does this principle work in practice?

Through the contribution of several people for the same risk (sum of premiums paid by all policyholders to the insurance undertaking), a common fund is formed and, in the event of a claim, it is this common and mutual fund that will bear the losses (compensation). That is, it is due to the payment of a relatively low amount made by many people that it is possible for a person who sustains a loss will be compensated for it.

TYPES OF INSURANCE

Let's learn about the different types of insurance better.

- **Home insurance** – when taking out home insurance, it is only mandatory to cover risk of fire, and only in buildings under a horizontal property scheme, as is the case with apartments. Insurance undertakings offer several types of insurance, with different home coverages – for example, water damage, electrical risks, floods, storms, earthquakes, home burglary, etc.
- **Health insurance** – this insurance covers risks related to the provision of health care according to the coverage provided in the contract conditions and the limits established therein. They are able to work by reimbursing the policyholder for expenses related to healthcare, direct payment to healthcare providers, or a combination of the two. The premium to be paid varies with a number of factors, including the age of the insured person (being higher for older people), the coverage contracted and the health status of the insured person.
- **Personal injury insurance** – contract through which the insurance undertaking guarantees the redress of personal injury resulting from an accident. Personal injury insurance usually includes the following coverage: death, permanent disability, funeral expenses, repatriation expenses and treatment expenses. This insurance can be subscribed by anyone. It can also be subscribed by collective entities, as is mandatory, for example, organising entities for holiday camps, in order to cover any accidents with the young people who attend them.

- **Accidents at work insurance** – compulsory insurance that covers employer liability for accidents suffered by employees in the course of their professional activity (during work hours and at the workplace as well as when commuting from home to work and vice versa). In the case of self-employed persons, it is mandatory for the workers themselves to take them out; in the case of employees, the contracting is made by the employer.

- **Motor insurance** – insurance undertakings offer a wide range of motor insurance products, but only motor vehicle liability insurance (which covers damage caused to other people) is compulsory. It is common for people to subscribe to mandatory coverage together with other optional ones, such as travel assistance, glass breakage, crash, collision or rollover as well as acts of vandalism or theft. The premium to be paid depends on the type of vehicle, engine capacity and sum insured, as well as the driver's data (age, how long driver has had a driver's licence, history of accidents, area of residence).
- **Insurance for electronic equipment** – this insurance is taken out to protect electronic equipment from malfunction, theft or accidental damage. It is usually taken out by companies to protect all their computers and other electronic equipment.
- **Life insurance** – a contract through which the insurance undertaking commits to pay the sum insured in the event the insured person has become deceased (insurance in the event of death) or a benefit provided in a contract due to survival (life insurance), or both. There are supplementary arrangements that also cover the risk of disability or unemployment. The premium payable is determined by the age and health status of the insured person.

  Life insurance is not mandatory, but it is a usual requirement for institutions to take **out a mortgage loan**, as we have already seen in Chapter 3. Therefore, in case of death or disability for those who take out the loan, the bank is guaranteed to receive the outstanding amount through the life insurance contract.

THINK ABOUT IT

In 2009, *El Mundo* reported that Real Madrid insured Cristiano Ronaldo's legs for 100 million euros. In case of serious injury, which might prevent the player from continuing to play, the club would have to receive compensation corresponding to the insured amount.

1. What kind of insurance did Real Madrid take out?
2. What reasons led Real Madrid to take out the insurance?

CASE STUDY

TIAGO
27 years old

Tiago is a fan of new technologies and likes to have the latest gadgets in his home. In addition to a high-end smartphone, he has the latest television set and sound system. He has installed a surveillance system at home that he can access via his smartphone to receive information in the event of an intrusion. To handle these expenses, he did not need to buy a car and is going to buy a bicycle to get around the city (the latest model, of course!).

VÂNIA
32 years old

Vânia lives alone in a small apartment in the city centre of Porto and is an outdoor sports fan. In her spare time, she practices rock climbing and rafting with her group of friends. She works as a professional photographer (as an independent worker) and travels a lot around the world, leaving her apartment unoccupied during these periods. She asks one of her friends to stop by the apartment to see if everything is OK as she is always worried that some problem might occur.

1. Would you advise some insurance for Tiago and Vânia? If yes, which?

EXERCISES

1. Among the following alternatives, which one is not considered a risk prevention measure? 10 pts

A. To have a healthy lifestyle (no smoking, exercise...).
B. Use a lock whenever the bicycle is parked.
C. Trust that no accident will happen.
D. Take out home insurance.

2. All the topics in the following list refer to precautions we should take when taking out insurance, except one. Indicate it. 10 pts

A. Read the contract carefully, paying particular attention to the clauses on risks excluded from insurance coverage.
B. Do not make a price comparison.
C. Compare products with the same characteristics (coverage, exclusions...).
D. Check to see if the contracted coverage and the existing exclusions meet our needs.

3. Read the following situations.

3.1 Identify situations that must be covered by compulsory insurance. 15 pts

A. Fire in an apartment kitchen.
B. A child broke a lamp in a shop while shopping with his mother.
C. A maid fell and twisted her ankle while at work.
D. Breakage of glass during the course of a car robbery.
E. Car accident in which damage is caused to another vehicle.

3.2 For the situations that you did not identify in question 3.1, please indicate the type of insurance and coverage that could be taken out. 20 pts

4. Complete the following text by selecting the appropriate words. 35 pts

deductible **policyholder** **lower** **insurance undertaking** **risk** **premium** **coverage**

When we enter into an insurance contract, the risk of financial losses is assumed by _____ . In return, the _____ pays a certain amount: the _____ . This amount always depends on the _____ involved and the _____, that is, on the set of situations that are guaranteed in the contract.

The higher the _____ , that is, the amount that, in the event of a claim, is borne by the insured person, the _____ will be the premium amount.

5. On Black Friday, Wender bought a mobile phone. The mobile phone cost €229.98 plus 12 monthly payments of €20 that he will pay for one year. When he bought it, he was offered a damage and theft insurance for the monthly amount of €9.99, which he chose not to take out.

A week later, Wender dropped the phone, which was irreparably damaged. The equipment's warranty does not cover this type of damage, so he will have to buy a new phone.

5.1 How much will Wender have to pay for the mobile phone after 12 months? 10 pts

5.2 How much would Wender spend after 12 months if he had taken out electronic equipment insurance in addition to the phone? 20 pts

5.3 Wender will buy a new phone in the amount of €150, since he has opted for a cheaper model. Could this expense have been avoided? 20 pts

5.4 In your opinion, should Wender take out insurance for his second mobile phone? 20 pts

6. Give examples of unforeseen situations that may be covered by the following insurance: 40 pts

A. Health insurance

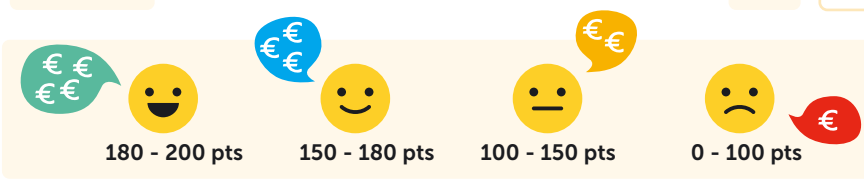
B. Motor vehicle liability insurance

C. Home insurance

D. Pet insurance

Self-assessment

Total



5

BASIC FINANCIAL SYSTEM AND PRODUCTS

WHAT ARE THE BEST PAYMENT OPTIONS?

On Alice's upcoming summer vacation, she will be going with her parents and brother to visit her paternal uncles in Toronto, Canada. Alice's uncles emigrated a few years ago and usually return to Portugal every summer to visit family and friends. This summer, Alice's family will travel to Toronto. To do this, everyone made an effort to save the money needed for travel and accommodation.

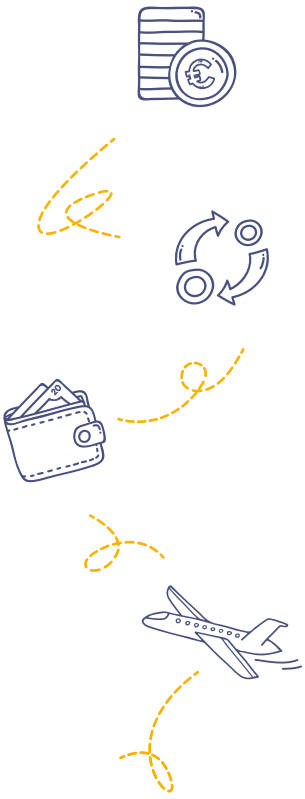
To make the most of her stay, Alice learned about the main tourist attractions that the family can visit and associated costs, as well as the official currency of Canada, the Canadian dollar.

Her parents are looking at the various possible ways to pay for daily expenses during their stay, as well as expenses with the trip, insurance and accommodations. If they choose to buy Canadian dollars for running expenditures, they must exchange the entire amount they plan to spend, prior to travel. On the other hand, if they choose to pay with credit cards, they avoid carrying money around with them.

Almost every day we make payments:

- What is the best option for making a payment?
- What are the associated costs?

IN THIS CHAPTER WE WILL EXPLORE THE FUNCTIONS OF CURRENCY AND LEARN ABOUT THE DIFFERENT WAYS TO MAKE PAYMENTS AND THE ADVANTAGES ASSOCIATED WITH EACH OF THEM.



HISTORY AND FUNCTIONS OF CURRENCY 5

The history of currency is linked to trade. The first exchanges made were direct exchanges, that is, we exchanged what we had for other products that we needed. Cereals, livestock, textiles and tools were exchanged for other things. But direct exchange had obstacles that made it difficult to trade: on the one hand, it was necessary to find those interested in the exchange of certain products and, on the other hand, people attributed different values to products.

These obstacles were overcome with the progressive use of an asset, with widespread acceptance as a payment method, which began to function as a currency. This good started as a relatively scarce and durable commodity: in different places and times, salt, hides, wheat, rum, dried meat, iron, copper and shells were used as currency. It was the era of the **commodity currency**.

The commodity currency also had disadvantages since there was the difficulty of transporting large quantities of the goods used as currency, which in some cases was also perishable. These disadvantages led to the increasing use of metal as currency. Metal possessed strength, high value, divisibility and was easily transportable. The era of **metallic currency** began.

The first metallic coins were made of iron, copper and bronze, then subsequently silver and gold began to be used. The precious metal used in coins guaranteed their value. And so people started to exchange their products for coins and then use them to buy the products they needed.

The increase in commercial activity led to the need to carry large amounts of currency, which proved to be difficult and dangerous. Goldsmiths and craftsmen began to store coins in their vaults in exchange for issuing a certificate of deposit indicating the amount of currency received. When they had to make a payment, instead of withdrawing the coins deposited in their vaults, people endorsed[1] the certificate of deposit to the person to whom they had to make the payment and who therefore became the new owner of the coins deposited in the vault. Certificates of deposit could therefore be converted into gold and silver coins.

1 Enter the name of the person to whom the amount is to be delivered.

With the development of the banking activity, the value of certificates of deposit in circulation became higher than the value of gold and silver kept in the bank's vaults. When the possibility of conversion into gold and silver was eliminated, current banknotes called **paper money**, appeared. This is fiat money, characterised by the inability to be converted into precious metals and to be widely accepted.

Regardless of its form over time, currency has the following functions:

- **payment method –** it is a form of payment for any good or service, with no need to make direct exchanges;
- **account unit or measure of value –** counts and expresses the value of goods and services (price);
- **reserve value –** can be saved for later use.

CURRENCY FUNCTIONS

Payment method
for purchases

Unit of account
for pricing

Reserve amount
for savings

Portugal adopted the **euro** (**€**) as its official currency on 1 January 1999, but it was not until 2002 that the previous Portuguese currency, the **escudo** (**$**), ceased to circulate.

The euro is the official currency of 19 European Union (EU) countries that comprise the Eurozone. It is used by millions of people every day, and is one of the most widely used currencies in the world. Its advantages are obvious to anyone travelling or shopping in Eurozone countries.

Euro banknotes are the same in all countries. Euro coins, on the other hand, have a common side, which displays the coin value, and a national side, which identifies the issuing country. Regardless of the country where they are issued, all currencies are accepted as a payment method.

The European Central Bank (the official bank of the 19 Eurozone countries) defines the volume of banknotes and coins to be issued, in conjunction with the central banks of those Eurozone countries. Banco de Portugal (Portuguese Central Bank) print euro banknotes, as defined at European level, and the National Mint (*Casa da Moeda)* produces the coins. On the European Central Bank's website, you can learn about the different currencies issued by the Eurozone countries.

These are the EU countries that have kept their national currencies:

COUNTRY	CURRENCY
Bulgaria	Bulgarian Lev (BGN)
Czech Republic	Czech Koruna (CZK)
Croatia	Croatian Kuna (HRK)
Denmark	Danish Krone (DKK)
Hungary	Hungarian Forint (HUF)
Poland	Polish Zloty (PLN)
Romania	Romanian Leu (RON)
Sweden	Swedish Krona (SEK)

WARNING

The small states of Andorra, Monaco, San Marino, Vatican City as well as the countries of Kosovo and Montenegro, also use the euro.

EXAMPLE

BRUNO
19 years old

Bruno, a Psychology student at the University of Coimbra, applied for the Erasmus programme, an exchange programme for university students from different countries. Students, whose application is accepted, receive a scholarship to support costs during their stay abroad.

Bruno's parents have agreed that they will pay for the plane tickets and will continue to give him his allowance. Bruno knows that the value of his scholarship and parents' allowance will not be enough to cover all his expenses, which will include rent for a room in a campus housing, the cost of food and supermarkets, a monthly pass, and some money for outings with colleagues. He will therefore have to use the amount of €235 that he has saved over the past two years, and continue saving during the upcoming months.

On the day Bruno learned that he was accepted as an Erasmus student by the Institute of Psychology in Krakow, Poland, his parents challenged him to calculate the current value of his savings in zlotys (PLN), the currency he will use in Poland.

To meet the challenge, Bruno will have to convert the amount of his savings into zlotys.

To do this, he needs to know how many zlotys he can buy with a euro, that is, he needs to know the **exchange rate**, which gives us the value of one currency in monetary units for another currency.

Typically, the exchange rate is represented by the base currency symbol followed by the second currency symbol. For example, EUR/PLN represents the value of one euro in zlotys.

The exchange rate is updated regularly. On the Banco de Portugal's website you can find the updated reference exchange rate for different currencies apropos the euro. For example, on the day Bruno did the math, one euro was equal to 4.29680 zlotys, in other words, he bought 4.29680 zlotys.

Let's then calculate how many zlotys (zł) Bruno could buy that day with his savings, using the following formula:

VALUE IN BASE CURRENCY × **EXCHANGE RATE OF CURRENCY TO BUY** = **VALUE IN CURRENCY TO BUY**

Bruno had €235 in his savings account. Thus:

€235 × 4.29680 PLN = 1009.75 zł

If, by chance, Bruno had 1009.75 zł and wanted to convert them to euros, he would take the same steps, that is, he would look for the exchange rate from zlotys to euros and apply the formula above:

1009.75 zł × 0.23273 EUR = €235

WARNING!

Currency exchanges can be made at commercial banks and exchange agencies, which are free to set exchange rates and charge commissions.

INFLATION

5

Let's go back to Bruno's example. Bruno is very excited about the trip to Krakow which will take place in 11 months. He has decided to draw up a budget for his stay in Poland. He calculated the income he expects to have, coming essentially from the scholarship, his parents' allowance and his savings. To estimate the expenses he will bear, he has been informed about the cost of rent at the campus housing, the monthly amount for public transport, the price of meals in the Institute of Psychology cafeteria and how much it will cost him for a film ticket, a coffee, a soda and so forth...

However, he remembered an important fact. He read that in Portugal, inflation has been low recently and that there had been no significant increase in prices. But what will the value of inflation in Poland be?

Bruno's question is pertinent. Let's see why.

In a market economy, the prices of goods and services are always changing. In our day-to-day lives, we notice that some prices increase whereas other drop. When there is an increase in prices in general, we are faced with the phenomenon of **inflation**.

Therefore inflation is the **widespread increase in the prices of almost all consumer goods**. This is what happens when the prices of energy, food, transport, rental housing, etc., increase. The result of this situation is that with the same money, we buy less consumer goods, which means, our **purchasing power** decreases. For example, if inflation in a year was 2 %, what was bought in the supermarket for €100 a year ago is expected to now cost €102.

Bruno's question is pertinent, because if inflation in Poland is high, prices in zlotys will increase until the date when Bruno travels and he will have to correct his initial budget.

Inflation is noticeable in the variation of prices for consumer goods. But it is also a factor to take into account when evaluating interest rates.

The interest rate can be nominal or real. The **nominal interest** rate is the agreed upon interest rate and paid. For example, the interest rate for a home loan or the interest rate of return for a savings investment. However, at the nominal interest rate it is necessary to subtract for inflation in order to understand the **real interest rate** being applied. Therefore, the real interest rate represents the nominal interest rate corrected by inflation.

WARNING!

One of the European Central Bank's main objectives is to maintain price stability in the Eurozone and thereby preserve the purchasing power of the single currency. To guarantee this objective, the inflation rate must remain at a level close to 2 %.

If the inflation rate is higher than the nominal interest rate on a deposit, it means that the price of goods is increasing more than the interest to be received. In this way, purchasing power is decreasing. For example, if a deposit earns 1 % in nominal interest and the inflation rate in the same term is 1.5 %, then this means that although you earn 1 % on the deposit, you lose 1.5 % to inflation and your purchasing power decreases by about 0.5 %.

WARNING

We should always compare the nominal interest rate of a financial product with the value of inflation!

THINK ABOUT IT

For Bruno's birthday, his parents deposited €1 000 in his term account with a nominal interest rate of 0.8 % per year.

1. If the inflation rate during that year was 1.1 %, was the return on this deposit, in real terms, positive or negative?
2. How much money will Bruno need at the end of this year to buy the same goods and services that he could buy when his parents made the deposit?

Mathematically, the real interest rate is calculated as follows:

$$\text{REAL INTEREST RATE} = \frac{(1 + \text{NOMINAL INTEREST RATE})}{(1 + \text{INFLATION RATE})} - 1$$

Let's look at an example:

EXAMPLE

CARLOTA
35 years old

Carlota invested part of the profits made at her business into a savings product with a two-year term and nominal annual interest rate of 3 %. At the end of the first year, the annual inflation rate was 2.2 %.

What was the real interest rate on this savings product at the end of a year?

Let's start by applying the previous calculation formula:

$$\text{Real interest rate} = \frac{1 + 0.03}{1 + 0.022} - 1 = 0.0078$$

So the real interest rate is equal to 0.78 %

This means that despite the nominal yield of this savings investment being 3 %, Carlota loses 2.2 % due to inflation. In other words, due to the value of inflation, the real income obtained with this savings product was only 0.78 %.

5

BANK ACCOUNTS AND PAYMENT METHODS

Dário, 30 years old

I have my money in the bank for security reasons. If I have the money at home, I am afraid it could be stolen or destroyed in some accident, like a fire.

Edna, 38 years old

I prefer not to have coins and notes with me. Having a bank account allows me to make payments and transfers without having to carry any money. And if I need to withdraw money from my account, I can easily withdraw money from an ATM machine at any time.

Francisca, 27 years old

I receive my salary by bank transfer and pay my monthly expenses through direct debit, which saves me a lot of time. In addition to this, I can track all activity I made on my account and I never lose track of how much I spent and on what.

Gonçalo, 18 years old

I recently opened an account to see if I could save some money from my allowance. When I kept the money at home, I used to spend it more easily because it was always at hand. Now I have less money in my wallet and spend less money on unnecessary things.

Today, most people have their money in a **current bank deposit** for security reasons, easy payment of accounts and receiving wages, control of money spent and received, and to help save. In addition to these advantages, current accounts also allow you to make money deposits and withdrawals.

A current deposit account becomes the basis for accessing various banking services, such as taking out credit or setting up a term deposit.

To know the **balance** and our account activity, we can consult the **bank statement**, which is made available monthly by the bank, or access an updated statement through the ATM, the home banking service or the banking app.

When you check account activity, the expenses made will appear with a negative sign – these are the **debit flows** – and the account balance decreases. Cash deposits in the account, for example from an allowance, come with a positive sign – these are **credit flows** – and the account balance increases.

For minors it is only possible to hold an account if it is opened by parents or guardians. Only at the age of 18, is it possible to open an account alone.

A current deposit account has an account number and is identified by a more extended version of that number, called **IBAN** (International Bank Account Number), consisting of 25 characters.

Institutions often charge fees associated with the current deposit account. These are the **maintenance fees**. As we have already seen, a stamp duty of 4 % is added to the fees.

For example, for a current deposit account whose monthly maintenance fee is €6, the stamp duty will amount to €0.24, and the monthly amount charged will be €6.24, representing an annual cost of €74.88.

WARNING!

There are basic bank accounts that have reduced and limited commissions established by law. You can look at the Fees comparator chart on the Bank Customer Website.

What are the most used payment methods?

1 Cash

Cash corresponds to **banknotes** or **coins** and is a means of universal payment and compulsory accepted. Vendors cannot refuse cash payments, unlike other payment methods.

2 Debit cards

Debit cards allow you to perform various operations, including withdrawing cash, paying for goods and services in commercial establishments, at ATMs and to make bank transfers. For example, when using a debit card to make a payment, the money immediately leaves your bank account and is reflected in your balance.

Having a card usually implies costs for the cardholder, as institutions usually charge an annual fee for providing the card.

Currently many cards have **contactless** technology, allowing you to make low value payments without the need to enter a pin, which speeds up transactions. The symbol))) indicates that the card has this payment option.

3 Prepaid cards

Prepaid cards allow you to perform the same options as debit cards, but are not associated with a current deposit account.

The prepaid card holder must transfer the amount onto that card in advance, which they wish to use. Each time the card is used, the amount corresponding to the transaction is subtracted from the amount available on the card.

4 Credit cards

A credit card allows you to make the same transactions as a debit card, but its use may have added costs – such as cash withdrawal at an ATM. It is both a payment method and a credit agreement, whereby interest and other charges may be incurred for use of the card, as we have already seen in Chapter 3.

When using the credit card for a payment, the money does not leave the current deposit account immediately. The credit card is often used for online purchases. Its use requires special care. We will approach this issue in Chapter 6.

THINK ABOUT IT

1. Joana had €100 in her current account and made a purchase for the amount of €20. Indicate what her account balance would be after the purchase, if she had paid with:
   a) a debit card;
   b) a credit card.

PUT INTO PRACTICE

There are precautions that are very important to take into account when using a credit card:

- It is essential to **pay attention to the interest and fees** charged when using the card.
- The use of the card changes the perception of the money spent, since the amount **does not immediately leave the current deposit account**, and therefore we do not see our balance decreasing.
- There is the possibility of making payments in installments, but on the amount that is not paid, interest is incurred, which increases the amount payable.
- Uncontrolled and excessive use of the card can lead to **over-indebtedness**.

5 Bank transfers

A bank transfer allows you to move money from one account to another, whether it's ours or someone else's. Bank transfers can be made at an ATM, in which case they are free of charge, or by telephone, home banking or at the bank counter, in which cases fees may be charged.

6 Direct debit

It is possible to make periodic or timely payments by direct debit from the current deposit account, subject to a single authorisation given by the customer. Usually, this means it is used to pay regular expenses, such as those for water, electricity and gas.

7 Cheques

A cheque is a payment order given to the bank so that it can pay the referred amount to the person or entity indicated on the check.

In recent years, with the development of technology, **digital payments** have gained increasing importance, such as PayPal and MB Way and the apps made available by banks.

These solutions have several advantages, including:

- they are a convenient way to make payments and their use is generally intuitive;
- allows for the instant transfer of money;
- they provide safer online payment methods.

THINK ABOUT IT

Indicate for each situation which payment method(s) seems to be the most appropriate for you.

a) Monthly internet payment
b) Buying a suitcase online
c) Payment of salaries
d) Buying bread at the bakery
e) Payment for dinner at a restaurant

CASE STUDY

HÉLDER
26 years old

Hélder has been working as a programmer for two years and took out a loan to buy a small apartment. His parents are helping him pay off this loan by transferring a fixed amount to his account each month. Hélder pays some household expenses through direct debit to his current account and uses his credit card to pay for a streaming service. At the beginning of each month, he draws up a budget and at the end of the month, he compares it with his bank statement, in order to control his spending.

Look at Hélder's account statement for the month of May 2021.

Current account N.º 12345678901 Currency: EUR Statement from 01/05/2021 to 31/05/2021

Overdraft facility available: €500 (ANR 10.0 %)

RELEAS. DT	EFFEC. DT	DESCRIPTION	DEBIT	CREDIT	BALANCE
		OPENING BALANCE			**800.01**
02.05	02.05	Direct debit PT67106686 Water	28.09		771.92
04.05	04.05	TRF Gym	20.00		751.92
04.05	04.05	Cash withdrawal	80.00		671.92
05.05	05.05	Direct debit PT10100825 Internet + TV	46.88		625.04
06.05	05.05	TRF from Manuel Oliveira		250.00	875.04
07.05	07.05	Direct debit PT37100921 Electricity + Gas	48.47		826.57
09.05	09.05	Contactless Supermarket Purchase	12.61		813.96
12.05	12.05	TRF Condominium	21.00		792.96
13.05	13.05	Supermarket Shopping	129.51		663.45
20.05	20.05	Loan collection 12345678901	348.00		315.45
20.05	20.05	Cash withdrawal	100.00		215.45
25.05	25.05	TRF Salary		900.00	1 115.45
26.05	26.05	Management fee (with stamp duty)	3.33		1 112.12
31.05	31.05	Credit card payment	10.99		1 101.13
		CLOSING BALANCE			**1 101.13**
		AVAILABLE BALANCE			**1 101.13**

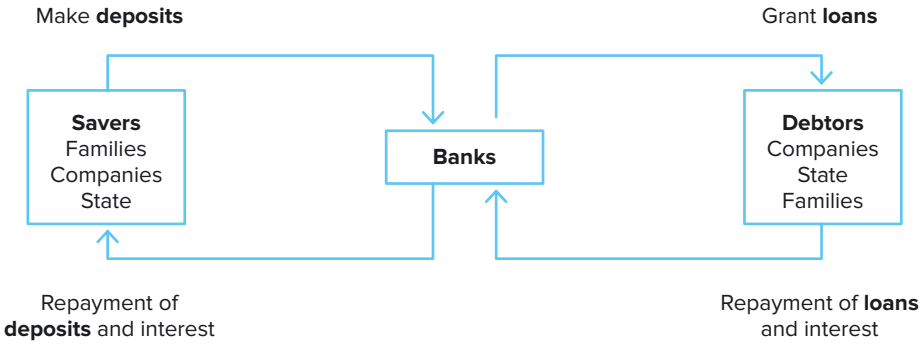
1. Hélder's expenses correspond to debit or credit activity?
2. Identify the expenses that Hélder pays by direct debit.
3. Would you choose any payment method other than those used by Hélder to pay his monthly expenses? Please justify.
4. During the month of May, Hélder had some unexpected work to fix at home for €1 250 and will have to pay for it before receiving his next salary. Does Hélder's account allow him to make this payment?

FINANCIAL INSTITUTIONS

5

The invention of currency and the development of financial activity over time led to the emergence of several institutions that make up the financial market and which we will get to know better.

The main function of **banks** is **financial intermediation**: to receive funds from financial agents who have liquidity (deposits) and to lend these funds to economic agents in need of financing (credit).



Other functions of banks, in addition to deposit retention and credit lending, include the provision of payment methods (such as cards, cheques, transfers, direct debits), the execution of foreign exchange transactions and the financial intermediation of insurance-related transactions (such as insurance underwriting) or with the capital market (such as the purchase and sale of shares, bonds or investment funds).

In addition to banks, there are **other financial institutions**, but they can only perform certain types of operations:

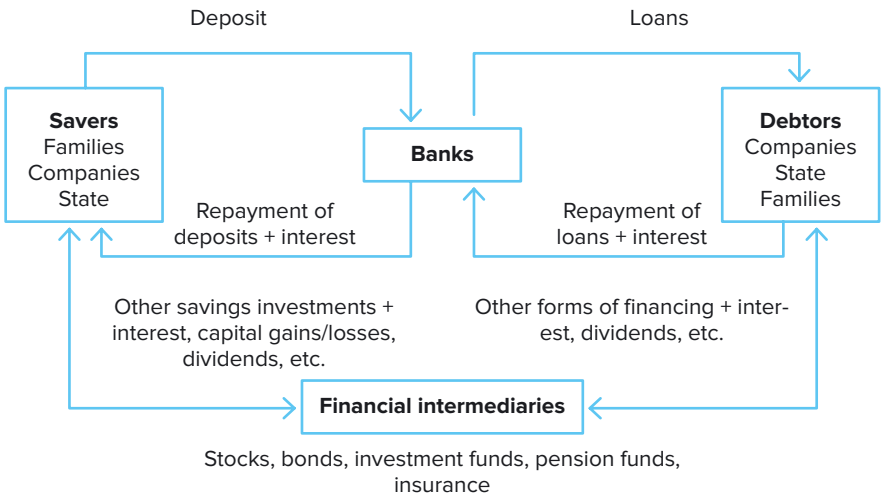
- exchange agencies can only perform currency exchange transactions;
- payment institutions and e-money institutions may only provide payment services;
- credit institutions and some financial companies grant credit as their specific activity.

WARNING

Savings banks and mutual agricultural credit banks have the same functions as banks. Only banks and these institutions are authorised to receive deposits from the public.

The activity of banks is supervised by the **Eurosystem**, which is made up of the **European Central Bank** (ECB) and the **national central banks** for countries that have adopted the euro (Banco de Portugal, in the case of Portugal). Safeguarding the stability of the financial system is, therefore, one of the Eurosystem's missions, alongside the issuance of euro banknotes and the maintenance of price stability in the Eurozone, as we have already seen.

The financial system has other players who, like banks, mediate between savings from those who save, and credit granted to debtors, so the scheme presented above can be completed as follows:



Financial intermediaries operate in the **capital market** to channel savings directly from savers to debtors. These ones, which can be companies and States (**issuing entities**), obtain financing directly from investors by issuing **securities** such as stocks and bonds. The use of the capital market is, therefore, an alternative to banking for companies and States to obtain financing and for investors to invest their savings.

Unlike more traditional savings investment products such as term deposits and savings and treasury bonds, investing in most securities may involve greater risk, resulting from uncertainty about the future evolution of prices and the income generated. However, the expected return is also higher than that of more traditional investments.

The capital market comprises two segments: the **primary market** and the **secondary market**. The primary market is where bonds are first traded when issued. This is where companies finance themselves. In the **secondary market**, investors can buy and sell the securities issued on the primary market.

On **stock exchanges**, transactions are performed through **financial intermediaries**, who receive purchase and sell orders from investors for their implementation. Banks, brokerage finance companies, brokerage firms, asset management companies and investment advisory firms may be financial intermediaries.

In order to buy and sell securities, it is necessary to have a securities account associated with a current deposit account, and subsequently enter into a financial intermediation contract.

A **securities account** is an open account, in most cases with a bank, wherein all transactions and activity performed, such as purchases, sales, transfers, receipt of interest and dividends, as well as payment of fees are registered.

The **financial intermediation contract** is concluded between the investor and the financial intermediary and it establishes the conditions, rights and duties of both parties in the provision of the services in question. Financial intermediaries must define the risk profile for investors and the adequacy of each specific investment in a given security for that profile, as we have already seen in Chapter 2.

For those who invest in the capital market, it is important to know the issuer of the security they are purchasing, and that they follow the information that may be disclosed from it, as this may have an impact on the price of the security.

Insurance undertakings are also financial institutions that retain, manage and monetise savings for those who save, and perform the functions indicated in Chapter 4 on the individual and property protection by covering the risks provided for in insurance contracts.

In Portugal, there are three financial system supervisors:

- the **Banco de Portugal** authorises the activity of banks, savings banks, mutual agricultural credit banks, exchange agencies, payment and electronic money institutions, credit institutions and financial companies;
- the **CMVM - Securities Market Commission** authorises the activity of financial intermediaries, the management of collective investment entities, auditors, real estate appraisers, market structures and systems and public securities offerings;
- the **ASF - Insurance and Pension Funds Supervisory Authority** authorises insurance, reinsurance, insurance mediation and pension funds activities, as well as those related or complementary activities.

These entities regulate and supervise the function of respective sectors. All financial institutions must be authorised by a financial supervisor.

WARNING

With the advancement of technology, there are more and more digital platforms for trading securities, accessible via smartphone or computer. However, we must confirm their authenticity and be cautious of online investment risks.

WARNING

To prevent fraudulent situations, financial supervisors publish **alerts about unauthorised activity** on their websites when they identify entities that are improperly exercising functions reserved for financial institutions and also contain a list of all authorised institutions in Portugal.

EXERCISES

1. What problems would be associated with the use of cows or shells as a form of payment? 5 pts

2. Identify the main functions of currency. 10 pts

A. Exchange intermediary, standard reference value and exchange reserve.

B. Method of exchange, unit of value and exchange reserve.

C. Payment method, unit of account and reserve value.

D. Exchange instrument, unit of reference, and State reserve.

3. In Portugal, for almost a century, the monetary unit was the escudo. When Portugal adopted the euro, the conversion rate was 200.482 PTE (Portuguese escudos). If, at the end of 2001, his parents had 5 000 escudos in their wallets, how many euros would that amount correspond to on 1 January 2002? 15 pts

4. On the Banco de Portugal's website, look up the current exchange rate of the euro against currencies from the United Kingdom and Switzerland. If you have €2 000, what value will it be in pounds sterling (GBP) and in Swiss francs (CHF)? 30 pts

5. Comment on the following statement: 'In the context of inflation, it is enough to just pay attention to the nominal interest rate of a term deposit.' 10 pts

6. Inflation in Portugal has varied over time: for example, in 2012 it was 2.8 %, in 2016 0.6 %, in 2020 0.0 %.

If €2 000 was invested in a term deposit with a nominal annual interest rate of 0.75 %.

6.1 What would the real interest rate for the deposit be in 2012, 2016 and 2020? 15 pts

6.2 In real terms, which of these years would yield a positive return on the deposit? 10 pts

7. Ivo keeps his savings in the piggy bank and has a total of €136. This month he saved €46 and already has enough money to buy some new headphones.

7.1 Is keeping the money in the piggy bank the best option? Why? Suggest an alternative way to do this. 10 pts

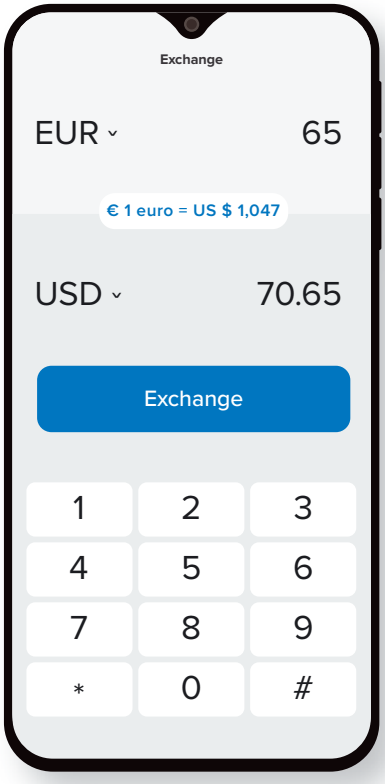
7.2 Ivo's credit card bill is €40 this month. Should Ivo pay the bill or use that money to buy the headphones? 10 pts

8. In the second week of the month, Júlia has €140 in her current account. Taking into account the following transactions, calculate the amount that she will have in the account after carrying out the following operations: 15 pts

- purchase of 1 mandatory text book for school: €20
- Bank transfer: €20
- cash withdrawal: €40
- subscription to the National Geographic magazine (direct debit monthly): €10
- payment for an online purchase with the credit card: €20

A. €30 **B.** €40 **C.** €50 **D.** €60

9. Kevin is a flight attendant and travels regularly between the United States and Portugal. During his last visit to Lisbon, he bought a cork backpack and paid €65, using a card. By browsing the application associated with his card, he obtained the following information: 15 pts



Considering the exchange rate indicated on the application (€1 = $1.047), has the transaction implied the payment of any additional commission fees?

10. Correctly match the two columns and give examples of goods or services that can be paid for by using each one of the referred payment methods. 25 pts

a) Moving money from one account to another	**1.** Direct debit
b) Banknotes or coins	**2.** Debit card
c) Previously authorised periodic payment in which the amount automatically leaves the current account	**3.** Bank transfer
d) Payment method that allows you to purchase goods and pay at a later date	**4.** Cash
e) Payment method that allows you to make a purchase in a store, with an immediate reduction of the bank balance	**5.** Credit card

11. What are financial intermediaries and what are their duties? 10 pts

12. What are the functions of the capital market? 10 pts

13. Banco de Portugal, CMVM and ASF are the financial supervisors, respectively for: 10 pts

A. Securities banks; insurance undertakings; stock exchange.

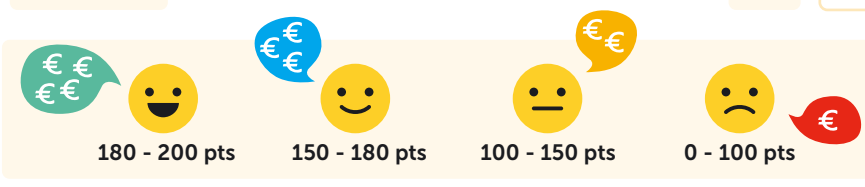
B. Stock exchange; banks; insurance undertakings.

C. Banks; stock exchange; insurance undertakings.

D. Banks; exchange agencies; insurance undertakings.

Self-assessment

Total



6 DIGITAL CHANNELS

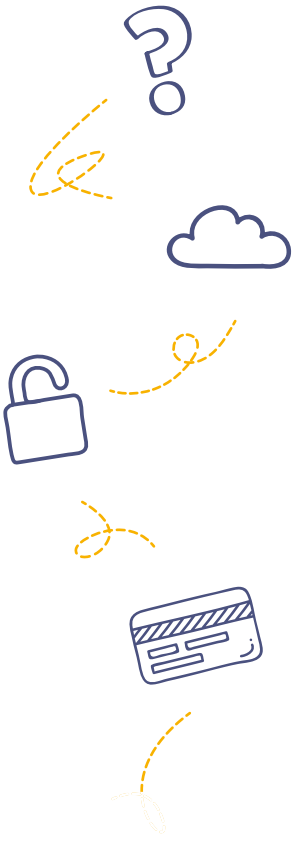
WHY SHOULD I KEEP MY PERSONAL INFORMATION SAFE?

Lúcia has two large dogs, Sasha and Cohen, and she usually buys food and accessories for her dogs online, mostly on the website of the veterinary clinic where she takes them.

Lúcia likes to follow posts of pets through social media and frequently researches websites specialising in dogs of the same breed as hers. Additionally, she likes to post pictures of herself and her dogs on social media. In recent weeks, she began to receive several advertisements marketing the sale of food, accessories and various treatments for dogs at attractive prices.

Recognising that conditions mentioned in the ads are advantageous, which would allow her to save a significant amount per month. Lúcia is thinking about buying from one of the advertised websites. However, knowing that there are instances of fraud associated with online sales, she hesitates to give her personal information, such as her name and address to receive orders and her credit card details to make payments, to an unknown entity.

What aspects should Lúcia pay attention to before making this decision?



More and more people make purchases and use online services in their daily lives.
However, it is essential to be extra careful whenever we use digital channels.

IN THIS CHAPTER, WE WILL LEARN ABOUT THE DIFFERENT TYPES OF FRAUD AND THE CARE WE MUST TAKE IN ORDER TO AVOID THEM.

RISKS AND FRAUD

Over time, fraudulent situations always arise, in which someone deceives or cheats one or more people in order to gain something, usually money. In recent years, the increasing use of digital channels has been accompanied by an increase in online fraud and the emergence of new forms of fraud.

Financially fraudulent situations can happen through **digital channels**, but also over the **phone** or **in person**. In any one of these cases, the consequence is a loss of money.

Currently, almost all financial products and services can be accessed and/or subscribed to online. In these cases, extra care must be taken to be sure who we are providing the data to.

In telephone or in-person contacts, attention is also required, since it is necessary to be sure that the person or entity providing the financial service is authorised to do so. We have already seen that the entities authorised to provide financial services in Portugal, in the banking market, in the capital market or in the insurance sector, are mandatorily registered with the financial supervisors – Banco de Portugal, CMVM and ASF.

Financial fraud can take several forms, such as:

- **misappropriation of personal data** (name, address, date of birth, citizen card and social security card numbers, telephone, email, passwords, debit and credit card numbers...) in order to access, for example, bank accounts. The appropriation of data can occur through a phone call, email, wallet theft or cloning of debit, credit or mobile phone (SIM card) cards;
- **false proposals for the investment of money** with high returns through telephone contact, by email or other means;
- **offers to grant credit** by individuals or other entities not authorised to do so;
- **counterfeiting banknotes**;
- **false promises to receive** large amounts of money in exchange for a small advance payment.

How can we protect our personal data?

Here are some rules we can put into practice:

- **Protect our personal codes**, including bank card codes and access codes to home banking or bank apps, by not sharing this information with anyone or keeping it near the cards or on your phone.
- **Check bank statements regularly** to make sure there is no unusual activity.
- **Use only secure internet connections**, avoiding access to home banking or performing financial transactions using public Wi-Fi networks, for example in cafes, restaurants, hotels...
- **Do not share personal details** on public forums or social media.

To know whether we are on a secure website, we should always check if the URL has been changed to https (the "s" indicates that the link is secure) or if a padlock appears next to the website address, as in the following example:

The best way to be ward off financial fraud is to protect our personal data and documents. If we don't do it correctly, we run the risk of someone misappropriating them.

Currently, many companies caution against the risk of cyberattacks to personal data through insurance, which guarantees payment of any compensation.

When fraud occurs through digital channels such as the computer, tablet or smartphone, we are dealing with situations of **digital fraud**. Let's learn about some types of digital fraud.

Phishing occurs when a hacker impersonates, for example, a financial institution by sending **fake emails** in order to obtain personal and confidential information from bank customers, such as passwords, access codes to home banking services, or bank account numbers.

These emails look similar to those of credit institutions in order to mislead the customer, causing them to click on a link that directs them, most of the time, to a **fake web page**, which is also identical to the institution's page (mirror page). On this page, the customer is asked to fill in personal data, claiming, for example, that these need to be updated, otherwise the bank account will be blocked.

THINK ABOUT IT

1. Read the following email and identify suspicious signs that may indicate fraud.

From: Banco XYZ <support@emrusalci.com.xr>
Subject: Unusual login to XYZ Bank account

Hello,

Your account has been temporarily suspended. We have blocked your account because someone recently tried to log in from an unknown location.

Please help us quickly confirm that you were the one who tried to log in.

Check your account here

The XYZ Bank security team,

XYZ Bank
Your trusted bank

Banco XYZ, S.A. – Branch in Portugal. Av. da República, Lisbon, Portugal.
Corporate TIN 560 880 300. CCR of Lisbon. Banco XYZ, S.A. reg. with the Commercial Registration Office of Lisbon

PUT INTO PRACTICE

Tips for recognising fake and dubious emails:

- **Unknown sender** and insufficiently identified.
- **Generic recipient**, which does not specifically indicate the person's name.
- Existence of **spelling and grammar mistakes**.
- **Messages whose content sounds too good to be true**, for example in regard to prizes, bonuses or chances to earn a lot of money without effort.
- Email that, although appearing to be from a credible institution, **leads the user to click on a link** that directs them to a fake page, where they are asked to fill in personal or confidential information (such as bank account access codes).

- **Repeated contact** to press the purchase of the product.
- **Request for an urgent decision**, with the argument that this is a limited time offer and bonus in case of immediate subscription to the product.

When phishing is made from an SMS, asking for you to open a link, it is called **smishing** (or SMS phishing). The SMS sent is often urgent, presenting false promises of money or claiming that if the person does not open the link, they will be charged a certain amount.

When phishing is performed from a phone call, it is called **vishing** (or voice phishing). This can take several forms: a phone call allegedly made by someone from a bank or financial entity, asking you for your personal and financial data (for example by saying that you need to verify your identity, or update your data); a phone call saying that you have won a prize and that you need your personal data in order to receive it, for example.

WARNING!

Credit institutions never request complete personal data and access codes through websites, email, SMS or phone calls.

Pharming is another type of digital fraud in which a **computer virus** is installed on the computer without the user's knowledge. This virus redirects the internet addresses recorded by the user (on their computer, mobile phone or tablet) to **false pages**, without the user realising it. Even if the user enters correct internet addresses, the virus will redirect him to fictitious pages, in some cases identical to the official pages of credit institutions. The confidential information entered by the customer is registered by the malicious program. This program can be installed on the computer by downloading a seemingly harmless web file.

One way to avoid pharming is to install a powerful **antivirus** capable of finding and removing any type of virus from your computer.

WARNING!

It can be difficult for the user to **recognise that they have been directed to a fake website**. However, there are aspects to be aware of:

- check if the website URL is spelled correctly;
- check if the URL has changed to 'https'.

Spyware is a **malicious programme** that installs itself on the computer without the user realising it. Once installed, the programme detects if the user is accessing a protected internet page, such as home banking pages, and records the data inserted by the user. The author of the spyware programme obtains the user's personal data that can be used to illicitly access, for example, their bank accounts.

SIM card swap, or **SIM swapping**, is a type of fraud that is characterised by copying the mobile phone's SIM card, in order to access user information. It often happens after data theft from the bank account by phishing, since many banks send messages to the customer's mobile phone to confirm their identity in order to make online payments. This requires hackers to have in their possession a copy of the phone's SIM card to receive these messages.

The increasing use of apps on mobile phones can endanger the security of our personal data: when installing new apps it is important to read the description and the permissions requested (for example, to the camera, to files saved on the phone, etc.) as we may be installing fraudulent apps and hosting malicious software.

The use of **social media** also requires special care: we should not have public profiles or accept people in our contacts who we do not know. Even with these precautions, we must limit the amount of personal information we share: after all, our friends already know where we live and our birthday! Sharing photos of our driver's licence, our car, our house or the place where we are on vacation allows people to obtain a lot of information about us that can be used to commit various frauds.

In addition, social media are also used by unauthorised persons and entities to make proposals or recommendations for the acquisition of financial products, including savings and investment applications and credit. Decisions on the purchase of financial products should not be made solely on the basis of information circulating on social media or online forums.

WARNING

It is very important to check and make the most of the **privacy settings** for social media and apps.

PRECAUTIONS TO BE TAKEN WHEN USING DIGITAL CHANNELS

We have already seen that there is a set of precautions that we can (and should) take to prevent fraudulent situations. Regarding digital channels in particular, there are specific precautions that should be taken into account.

PUT INTO PRACTICE

Precautions to take when using digital channels:

- **Choose strong passwords**, which include upper and lower case letters and special characters.
- **Do not share passwords or pins**, or use the same password or pin on multiple accounts.
- **Protect your computer with antivirus programmes** and anti-spyware and always use an active firewall.
- **Do not open emails with dubious content** or from an unknown sender.
- **Do not disclose personal data or complete access codes** over the internet, email or telephone.
- **Write the address** instead of clicking on links when you want to search websites for financial institutions.
- Check if the entity providing the financial service is **authorised and registered in Portugal**.
- **Only install apps through official stores**, looking for information beforehand in order to verify that they are safe.
- **Limit the amount of personal information** made available on social media.
- **Do not make money transfers** without first checking the credibility of the information provided.
- When using a price comparison website, carefully check the conditions of products presented and **not just the price**, thereby avoiding hasty decisions.

When using **home banking**, we should also take into account the following procedures:

- check the date and time of last access;
- end the session by clicking 'logout';
- always check the data of an operation before validating it.

CASE STUDY

MARTIM
24 years old

Martim saw ads selling tickets for summer festivals on Facebook. From one of them he came to a sales website and, without checking whether it was official, bought tickets for himself and his girlfriend Olga. He paid for the tickets with his debit card and received them shortly afterwards by email.

Three months later, Martim and Olga headed enthusiastically to the festival. At the entrance, they were told that their tickets were fake and that they could not enter.

Martim and Olga were unable to attend the concert and were unable to get back the money spent on the tickets.

1. How could this situation have been avoided?

When using digital channels to make **purchases** it is essential to first look for information about the seller and check the security of the website where you want to make the purchase. In addition, secure payment methods should be used, such as ATM references, PayPal, MB Way or virtual cards, and proof of payment should be kept, in case there are problems with delivery or with the product received.

In the capital market, trading securities through digital platforms requires special care. Therefore, it is important to check whether these platforms are authorised in Portugal and to be aware of the risks of the products that are presented to us, as some may cause capital losses greater than the amount initially applied.

WARNING

We should be particularly cautious if we find little or no information about the seller, particularly if there are no comments from previous buyers.

In case, despite the care taken, fraud occurs, or we have the suspicion that some irregular situation may have occurred, we should immediately contact the financial entity. We may also contact one of the following entities:

- nearest police enforcement body (PSP, GNR or Polícia Judiciária);
- Public Prosecutor's Office;
- National Commission for Data Protection.

On the CNCS – National Cybersecurity Centre website, we can check information about good practices and useful tips for being an informed citizen: https://dyn.cncs.gov.pt/pt/boaspraticas/

EXERCISES

1. Give examples of three financial activities that can be performed using digital channels. 15 pts

2. How can we find out whether an entity is authorised to provide financial services in Portugal? 15 pts

3. Patrícia saw an ad on Instagram and accessed a watch-selling website. She checked the website address, which ended in .pt, and that the text was carefully written. She then assumed that it was a reputable website and ordered a watch, which she paid for with a credit card. The delivery time was 7 days. However, Patrícia never received the watch. What other precautions could Patrícia have taken to prevent this fraud? 20 pts

4. Rogério received the following SMS:

> Customer, please contact us immediately using the link below.
> We believe that your account may have been accessed by third parties.
> IT Department
> www.bancox.seguranca.pt

Scared, Rogério immediately clicked on the link and entered his access details into his bank account. He then received the following SMS:

> Thank you for your details. You will be contacted shortly.
> IT Department

Only then did Rogério suspect that he might have been a victim of fraud. He reread the messages he received, wondering if they were genuine. He then logged into his account, through the app, and found that money was unduly withdrawn.

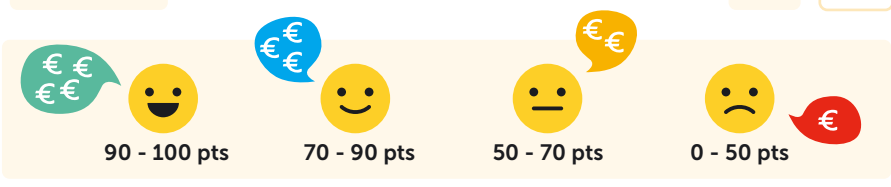
4.1 What kind of fraud was Rogério a victim of? 10 pts

4.2 Identify aspects from the first SMS that should have raised doubts for Rogério. 20 pts

4.3 What should Rogério have done after receiving the first text? 20 pts

Self-assessment

Total



SOLUTIONS

CHAPTER 1

THINK ABOUT IT... | P. 5

1. Personal response.
2. **Reasons for considering the mobile phone as a necessary expense:** it is essential for us to be in contact with other people and to be socially integrated; it is a way to store and organise personal information.

   Reasons for considering the mobile phone as a superfluous expenditure: it is not necessary to use a mobile phone to communicate with others, alternative means can be used; its use entails other associated expenses.
3. The answer may vary if students consider who the mobile phone is intended for, for example, non-school aged children.

CASE STUDY | P. 6

1. Beatriz must prioritize the following needs: repair the faucet, replace the refrigerator, buy a washing machine, buy a bed and a mattress. The remaining needs can be met later.
2. Consumables that correspond to goods, which do not run out: bicycle, coffee machine, suit. Consumables that correspond to goods which expire: buying dinner to friends, plane ticket.

THINK ABOUT IT... | P. 7

1. Television: The price of each instalment. Sweaters: The price at which a sweater can be bought.
2. Yes, the attention is focused on the first digit, giving the illusion that the price is lower than in reality.
3. Yes, the information is given although the emphasis is on the price €39.90.
4. Yes, although this information is presented in a smaller font.

CASE STUDY | P. 9

1. It corresponds to a need because Dinis effectively needs a computer for his studies, if he doesn't want to jeopardise his football training.
2. Short-term need because it needs to be satisfied in the immediate.
3. It corresponds to a durable good because it is used more than once.
4. A request for its repair or exchange at no charge can be made.
5. **For example:** compare prices in different stores and take advantage of promotions.
6. **Option A:**
   Advantages: He doesn't have to have the full amount at the time of purchase; he receives the computer immediately.

   Disadvantage: Spends €40.4 more than with option B.

   Option B:
   Advantage: He spends less money (saving €40.4).

   Disadvantage: He will have to wait at least 1 month for delivery of the computer.

THINK ABOUT IT... | P. 11

1. **Suggestion for response:** Save the remaining amount (€17) or use it to buy something.
2. **Suggestion for response:** Dispense some superfluous expenditures (outings with friends and clothes) and reduce some variable expenses (look for more economical options for food expenses).

SOLUTIONS

CASE STUDY | P. 13

1.

INCOME	AMOUNT
Net salary	€850
Overtime	€100
Total	**€950**

EXPENSES	
Rent	€450
Gas, electricity and water	€90
Food	€250
Mobile phone + Internet package	€43
Personal expenses	€51
Leisure	€28
Total	**€912**

GOALS FOR SAVINGS	
Savings for holidays	€30
Savings product	€50
Total	**€80**

The balance of Guilherme's budget is €950 − €912 = €38.

2. He will have more income, €38 more than his expenses.

3. Guilherme is not meeting his savings goals and can try to reduce his superfluous expenditures by €42, such as personal expenses (€51) and leisure expenses (€28).

4. **For example:** medical appointment, emergency, the fridge breaking down, etc.

5. Reduction of personal and leisure expenses, to create an emergency fund and, eventually, take out insurance for situations to which they apply.

THINK ABOUT IT... | P. 16

1. **For example:** Absence of 4 days at work due to illness (reduction of about €180 in net salary), theft of a mobile phone (about €80), rupture of a pipe (about €150, because coverage was not taken out for that risk).

2. **Suggestion for response:** reduce leisure and personal expenses, food and supermarket expenses and, if necessary, use the emergency fund or reduce the amount to be saved for the month in question. In the future, study the possibility of extending insurance coverage.

EXERCISES | P. 19

1. **NE:** a), c), d), h) **SE:** b), e), f), g)

2. Short-term needs: a), c), d) Long-term needs: h)

3. **a)** **F**. Although the jacket is worn only part of the year, it can be worn over several years.
b) **T**.
c) **F**. Having good money management does not mean that we cannot satisfy all our desires. It means that we can fulfil our desires, but only as far as possible, that is, not placing the satisfaction of our needs into jeopardy.
d) **F**. An impulse purchase is not planned and is often decided immediately before the purchase.
e) **T**.

4. **Fixed expenses:**
a), b), c), e), j)

Variable expenses:
d), f), g), h), i), k), l), m)

5.1

Previous balance	€26,5
INCOME	**AMOUNT**
Allowance	€40
Birthday gift	€80
Total	**€120**

EXPENSES	AMOUNT
Concert ticket	€18
Train ticket	€13.75
Food at the concert	€10
Clothing	€24.90
Meal tickets	€33
Total	**€99,65**

5.2 Yes, the balance at the end of the month is positive (€46.85).

6.1 **Kaio:**
Fixed income: Salary and meal allowance.
Variable income: Amount received by private classes.
Luísa:
Fixed income: Salary and meal allowance.
Has no variable income.

6.2 **Kaio:**
Balance = 934 + 510 + 130.2 - 1 320 = €254.2
Luísa:
Balance = 750 + 130.2 - 838 = €42.2

6.3 Yes, Luísa. Although her balance is not negative, it does not allow her to reach her savings goal. To increase the balance, she can reduce the amount spent on one or more of the following expenses: clothing, leisure, beauty and hairdressing or personal expenses.

6.4 Kaio, since he provides, in his budget, a monthly amount for an emergency fund due to risky situations.

7. Calculation of the social security contribution amount:
€1 500.00 × 11 % = €165.00

Calculation of the withholding tax amount: €1 500.00 × 17.8 % = €267.00

Calculation of the food allowance amount:
€4.77 × 22 % = €104.94

So, the net salary will be: €1 500.00 – €165.00 – €267.00 +
+ €104.94 = €1 172.94

8. Calculation of the total deducted amount and taxes:
11 % + 7 % = 18 %

Calculation of the food allowance amount (exempt from taxes):

€4.9 × 21 % = €102.9

Calculation of net salary – meal allowance:

€746.2 + €102.9 = €643.3

The net amount corresponds to 82 % of the monthly salary (100 % – 18 % discounts):

643.3 ——— 82%
x ——— 100%
x = 643.3 × 100 / 82 = 784.5

So, the gross salary will be:
€784.5 + €102.9 = €887.4

9. expenses, income, emergency fund, savings product, car, home, retirement, education, goal, balance, plan, multi-year.

CHAPTER 2

THINK ABOUT IT... | P. 25

1. Personal response.

CASE STUDY | P. 26

1. Nádia will take 4 months to save the required amount.

2. She will save €25 (€70 − €45) with the annual subscription.

3. Personal response. With the annual subscription, Nádia has the advantage of saving €25 and the disadvantage of only allowing her access to the exercises and answers from January. With the monthly subscription, Nádia has the advantage of having access to content at the start of the year and the disadvantage of it being more expensive.

4. She will be able to save €130 (3 × €30 + €40).

5. Not being able to go on the trip.

6. She will be able to pay the initial amount after 10 months: (€220 - €40) / €18 = 10

CASE STUDY | P. 28

1. **The Pereira family balance:**
€890 x 2 – (€740 + €805) = €235

Queirós family balance:
€1 850 + €205 – (€1170 + €760) = €125

SOLUTIONS

2. The Pereira family. Although the amount in this month's emergency fund is not enough to pay for the unforeseen expense, they can use the accumulated amount in the savings product.

3. This month, the Queirós family will be able to use the savings amount to pay the residential fee. From then on, the family will have to reduce its variable expenses and, if possible, the fixed ones as well, in order to make the residential fee not covered by the amount of the grandfather's pension (€395).

CASE STUDY | P. 33

1. Investment Z will be the most suitable because it has the highest APR and a two-year term, consistent with Samir's objective. This account does not allow early withdrawals, but this is not a problem as Samir will only need the money within two years. However, Samir will only be able to open this account within two months due to the initial amount required.

2. Investment Z is excluded for Telma because it has a longer term than the one she has available in order to gather money for the trip and because it does not allow early withdrawals. Investment Y is also excluded because it has a longer term and she has no possibility of incrementing it, which does not interest her.
Investment X is suitable for Telma.

3. **X term investment:**
I = 500 × (92/360) × 0.01 = €1.28
Net interest = 1.28 − (1.28 × 0.28) = €0.92

Y term investment:
I = 500 x 1 × 0.02 = €10
Net interest = 10 − (10 × 0.28) = €7.20

Z term investment:
I = 500 x 2 × 0.03 = €30
Net interest = 30 − (30 × 0.28) = €21.60

THINK ABOUT IT... | P. 35

1. Personal response.

2. Personal response. Aspects such as monthly or annual savings, investment of these amounts into savings products, reduction of expenditures, etc., are expected to be identified.

3. Personal response. Aspects such as unforeseen situations, changes in personal goals, increasing cost associated with those goals, etc., are expected to be identified.

4. Personal response. It is possible to believe that the required savings amounts are too high and unattainable, or that goals may need to be redefined, or that it is necessary to start saving very early in order to reach long-term goals.

THINK ABOUT IT... | P. 41

1. **Expected response:** retirement saving schemes, low-risk pension funds.

2. **Expected response:** stocks, bonds, investment funds.

3. **Expected response:** term deposit, savings certificates, treasury bonds, capitalisation life insurance.

EXERCISES | P. 42

1. Money is safer against loss or theft, it is easier to control the accumulated amount and a return can be obtained for the money invested.

2.1 €24, equal to a savings of three monthly payments.

2.2 For 9 months (€72/€8=9).

2.3 **Advantage:** save €24 over a year.

Disadvantage: having to wait nine months to start taking advantage of the subscription, if you have not previously saved the necessary amount.

3.1 Only Bank A, as it is the only one whose minimum amount is less than the available amount of €110.

3.2 **Bank A:**
Gross interest = €500 × 1 × 0.006 = €3

Bank B:
Gross interest = €500 × 1 × 0.008 = €4

Bank C:
Gross interest = €500 × 1 × 0.01 = €5

3.3 The deposit from Bank A since it has the shortest term. And if more than 3 months had elapsed after starting the deposit, you would still have received interest on the initial amount.

3.4 The bank has an interest in being able to dispose of our money for as long as possible, so it will offer higher interest rates for longer deposit periods.

4.1 Gross interest = €2 200 × 0.5 × 0.015 = €16.5

4.2 Net interest = 16.5 – (16.5 × 0.28) = €11.88

5.1 Carlos.

5.2 **Bernardo**

At the end of 3 years:
Gross interest = €5 000 × 3 × 0.02 = €300 (€100 per year)

Carlos

Year 1:
Gross interest = €5 000 × 1 × 0.02 = €100
Capital at the end of Year 1 = €5 100

Year 2:
Gross interest = €5 100 × 1 × 0.02 = €102
Capital at the end of Year 2 = €5 202

Year 3:
Gross interest = €5 202 × 1 × 0.02 = €104.04

At the end of 3 years:
Gross interest = €100 + €102 + €104.04 =
= €306.04

Carlos received €6 more than Bernardo.

6. **a)** **F**. Debt securities that correspond to loans for entities that issue them are bonds.
b) **T**.
c) **F**. An investment fund is a set of single assets invested in a variety of assets (stocks, bonds, real estate, etc.).
d) **T**.
e) **T**.

7. **A.** capital risk
B. liquidity risk
C. risk of return
D. credit risk
E. market risk

8. **Situation 1:** term deposit
Situation 2: shares
Situation 3: investment funds
Situation 4: pension funds

CHAPTER 3

CASE STUDY | P. 49

1. **Famalicão Family:**
a) Effort rate =
= 600 / 2 500 × 100 = 24%
b) Disposable income =
= €2 500 − €600 = €1 900
c) Disposable income per member =
= €1 900 / 5 = €380

Guimarães Family:
a) Effort rate =
= 600 / 2 500 × 100 = 24%
b) Disposable income =
= €2 500 − €600 = €1 900
c) Disposable income per member
= €1 900 / 3 = €633

2. No, since the effort rate does not take into account the household composition.

SOLUTIONS

THINK ABOUT IT... | P. 50

1. Personal response.

	ADVANTAGES	DISADVANTAGES
A. Save until she has €600 to buy the board.	Satisfaction for having saved and not being dependent on other people. Don't take on debt. Not having to pay a higher amount for the board (not having resorted to credit).	Having to wait 5 months ((600 − 350) / 50 = 5) to be able to buy the board.
B. Borrow the money from family members.	Be able to buy the board now. She can start teaching, and then quickly recover the money she borrowed and pay what she owes.	Need family members to have the money available and willingness to lend it. Take on debt.
C. Apply for credit at a bank.	Be able to buy the board now. She can start teaching, and then quickly recover the money she borrowed and pay what she owes.	Pay a higher amount for the board (due to interest and other charges payable for the credit).

THINK ABOUT IT... | P. 52

1. No. It is expected that people who can guarantee the payment of outstanding debts through their income or assets are identified as guarantors, which is not the case for Luis's brother or friend.

CASE STUDY | P. 55

1. **Fixed interest rate:** knowing exactly the amount to be paid each month, which allows you to know the impact of the loan payment on the monthly budget.

Variable interest rate: being able to benefit from the decline of Euribor, reducing the value of the monthly instalment.

2. **Fixed interest rate:**
€758 × 12 x 30 = €272 880
Variable interest rate:
€649 × 12 x 30 = €233 640
Mixed interest rate:
Years 1-5: €694 × 12 x 5 = €41 640
25 years later: €656 × 12 x 25 =
= €196 800
Total: €41 640 + €196 800 = €238 440

3. The best type of interest rate will be the variable one since it corresponds to the lowest total amount payable at the end of 30 years.

4. If the Euribor rate rises, the variable interest rate may no longer be the best option, since the value of the monthly instalment will increase.

CASE STUDY| P. 57

1. The most advantageous proposal is the one with the lowest APR (proposal 2). Proposal 1 has a lower ANR and therefore a lower monthly instalment payment. However, the charges for fees and insurance in this proposal are higher, which makes it more expensive overall (as also evidenced by the TAR values). The comparison between two credits with the same term and amount must be made based on the APR, the only rate that reflects the overall cost of the credit.

EXERCISES | P. 59

1. Personal response. Since this is Ester's first job, with some uncertainty about the future, options **A** and **B** will be the most appropriate.

2.1 **C**.

2.2 **B**. (€2 000 - €450) / 3 = €516.7

3. **D**. The effort rate is the percentage of monthly income that goes toward paying off all loans. Monthly loan payments are fixed expenses in the household budget. Therefore, the higher the effort rate, the greater the risk of financial difficulties, if unforeseen situations occur, which imply increased expenditures or reduced revenues.

4. **C**. In loans with variable interest rates, the annual nominal rate is the sum of the index and spread. The index corresponds to a reference rate, normally the Euribor, and the spread is defined by the credit institution, contract by contract, depending on the loan's risk assessment.

5.1 **Lower cost:** full refund (100 %) at the end of the month, which has no associated charges.

Higher cost: fixed instalments of €50, which of the arrangements presented is the one with the most associated charges (€118.84).

5.2 Though the full refund option (100 %) has a lower cost, it requires a refund of €1 000 after one month. The following options have increasing costs and longer repayment time, but lower monthly instalments.

5.3 The Oliveira family can only choose options 3 and 4.

5.4 Personal credit. The Oliveira family is able to pay the monthly instalment of €86.18 and the cost of personal credit is €70.92, lower than the charges that would be incurred in options 3 and 4 for the credit card.

6.1 Evaluation fee + Registration conversion + Opening fee:

€250.00 + €50.00 + €300.00 =
=€600.00

Stamp duty = €600.00 × 0.04 =
= €24.00

6.2 TAR = €100 000 00 + €33 063.01 +
+ (€50 x 30) + €600 + €600 + €24 =

= €135 787.01

In a real situation, the total amount to be repaid may vary, in particular as a result of the change in the interest rate.

CHAPTER 4

THINK ABOUT IT... | P. 63

1. Personal response.

2. **Examples:** 'Better safe than sorry', 'Forewarned is forearmed', 'Shut the barn door after the horse has bolted'.

CASE STUDY | P. 66

1. As of 30.04.

2. **Youngest child:**
€234 x €50 + €2 + €15 + €15 = €329
(the 1st consultation cost €50 due to the deductible applicable to outpatient care support)
Middle son:
€234 + €50 + €35 + €15 = €334

Oldest son:
€234 x €50 + €20 + €3.05 + 2 x €15 +
+ €15 = €390

SOLUTIONS

3. **Youngest son:**
€3 x €80 + €90 = €330

Middle son:
€80 + €90 = €170

Oldest son:
€20 x €25 + €2 + €80 + €90 = €750

4. The amount spent on the three children with insurance totals €1 053 while the amount they would have spent without insurance would be €1 250. Although the difference is not significant with the set of three children, in the case of the eldest child, it is possible to understand that in the event of an accident or unexpected illness, the insurance saves large amounts.

5. They will pay €750.

6. Personal response.

THINK ABOUT IT... | P. 69

1. Personal injury insurance.

2. Wary of a situation in which Cristiano Ronaldo could no longer play, so as not to lose the money invested in hiring the player.

CASE STUDY | P. 70

1. **Tiago:** For example: home insurance with coverage for home burglary; insurance that protects the bicycle from theft or robbery and other damages; personal injury insurance since he will be commuting by bicycle in the city; liability insurance that covers damage caused to others as a result of riding the bicycle.

Vânia: For example: home insurance with coverage for theft, water damage, electrical hazards, floods or storms, so she can have peace of mind when you travel; personal injury insurance that includes extreme sports; health insurance covering expenses abroad; accidents at work insurance, and if the worker is self-employed (mandatory).

EXERCISES | P. 71

1. **C**.

2. **B**.

3.1 **A**. Fire insurance
C. Accidents at work insurance
E. Motor vehicle liability insurance

3.2 **B**. Civil liability insurance with family liability coverage.
D. Motor insurance with coverage for acts of vandalism.

4. insurance undertaking, policyholder, premium, risk, coverage, deductible, minor

5.1 Will pay €469.98.
(€229.98 + €12 x €20)

5.2 Would spend €589.86. .
(€469.98 + €12 x €9.99)

5.3 Yes, if Wender had taken out the insurance or if he had been more careful with his phone and not dropped it.

5.4 Personal response.

6. **For example:**
A. Medical appointments, medical examinations, hospitalisations, glasses, braces, etc.
B. Material and bodily damage caused by our vehicle to third parties; damage to the occupants of our vehicle.
C. Veterinary consultations, vaccinations, etc.
D. Veterinary consultations, vaccinations, etc.

CHAPTER 5

THINK ABOUT IT... | P. 80

1. It was negative, since inflation is higher than the value of the nominal interest rate.

2. They would need €1 011.

€1 000 + 0.011 x €1 000 = €1 011

THINK ABOUT IT... | P. 84

a) The balance would be €80.

b) The balance would be €100, since he paid with the credit card. In this case, the purchase amount will only be debited from his current account in the following month or months, depending on the agreed repayment method.

THINK ABOUT IT... | P. 85

1. **a)** direct debit
b) credit card; debit card, if the website allows it; digital payments (more secure for online payments)
c) bank transfer
d) cash
e) cash; debit card; credit card

CASE STUDY | P. 86

1. Debit activity, since the amount is subtracted from your balance.

2. Payment for water, payment for Internet + TV and payment for electricity and gas.

3. Personal response. The gym could be paid by direct debit as it is a fixed monthly expense.

4. Yes, because although the balance is less than the amount she has to pay, the account has an overdraft facility (credit) up to a limit of €500, which is already enough to pay for the value of the work.

EXERCISES | P. 90

1. Difficulty with transportation; it was necessary to find someone interested in receiving cows or shells; no divisibility of cows to pay for goods of small value.

2. **C**.

3. 5 000/200.428 = €24.94

4. Answer based on the exchange rate of the day.

5. AThe nominal interest rate is the interest rate agreed upon and paid, while the real interest rate corresponds to the nominal interest rate adjusted due to inflation.

We must pay attention to the real interest rate.

6.1

2012: – 1.99%

$$\text{Real interest rate} = \frac{1 + 0.0075}{1 + 0.028} - 1 = -0.0199$$

2016: 0,15%

$$\text{Real interest rate} = \frac{1 + 0.0075}{1 + 0.006} - 1 = 0.0015$$

2020: 0,75%

$$\text{Real interest rate} = \frac{1 + 0.0075}{1} - 1 = 0.075$$

6.2 Only in the years 2016 and 2020, since in these years inflation was lower than the value of the nominal interest rate.

7.1 No, because it can be stolen and because, since it is not invested in a savings product, it is not earning interest. You can invest it into a term deposit.

7.2 Ivo must pay the credit card bill since this avoids the payment of interest and indebtedness.

8. **C**. €50 because the amount paid with the credit card does not immediately leave the account.

9. Yes. The cost of the transaction in dollars was $70.65, which is higher than the conversion value of €65 at the indicated exchange rate (€65 × 1.047 = $68.06). The difference corresponds to the fees paid.

10. **a)** 3 **b)** 4 **c)** 1 **d)** 5 **e)** 2

11. Financial intermediaries act in the capital market to channel savings directly from savers to debtors. They receive buy and sell orders relating to securities from investors with the goal to implement them.

12. SThey are an alternative to banking for companies and States to obtain financing and for investors to invest their savings.

13. **C**. In addition to banks, stock exchanges and insurance undertakings, Banco de Portugal, CMVM and ASF also supervise the entities mentioned on page 89.

CHAPTER 6

THINK ABOUT IT... | P. 97

1. It isn't possible to identify the sender clearly; the email starts with a general greeting, and does not specify who the recipient is; the email has spelling, punctuation and grammar mistakes; questionable link at the end of the email; the message is urgent.

CASE STUDY | P. 101

1. Martim should have sought information about the seller since he should only buy tickets directly from the festival promoter or authorised resale agents. When making the payment, he should have checked the website address, to see if it started with https and if it had a padlock, which guaranteed that it was a secure website.

EXERCISES | P. 102

1. **For example:** payments, transfers, taking out credit, setting up a term deposits, taking out insurance.

2. We must check if it is registered with one of the financial supervisors: Banco de Portugal, CMVM and ASF.

3. Patrícia should have checked if the website address started with https and if a padlock appeared next to the address, which indicates that the payment was secure. Additionally, she should have checked whether the address was real and looked for information about the seller or comments from other buyers on the website. After the event she must cancel her credit card.

4.1 Was a victim of smishing.

4.2 Generic greeting; urgency of the message, requesting you to click on a link and enter your full access data (never requested by a financial institution via message).

4.3 Instead of clicking on the link, Rogério should have contacted the bank to verify the authenticity of the message.

Title
Financial Education Workbook - 4

Intellectual Creation
Leya SA

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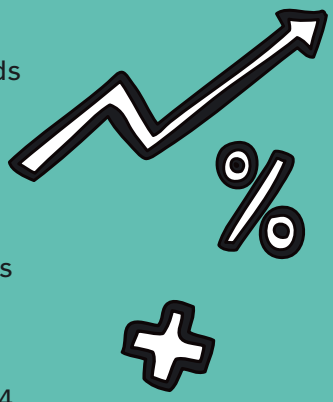
The Financial Education Workbook for secondary education is intended to support students and teachers in their approach towards topics from the Core Competencies for Financial Education and can be worked in various curricular learning contexts, within the scope of subjects or in the development of projects. The Core Competencies topics are presented in a creative and educational way, namely through case studies, which are based on realistic stories for young people in this age group, and includes exercises as well as tips to put the acquired knowledge into practice.



This Workbook is the fourth volume in the Financial Education Workbook series. The publication of Financial Education Workbook 4, as well as those already published for the first, second and third elementary education levels, is the result of a partnership under the National Plan for Financial Education, between the Ministry of Education (through the Directorate-General for Education), financial supervisors (Banco de Portugal, CMVM - Securities Market Commission and the ASF - Portuguese Insurance and Pension Funds Supervisory Authority) and four financial sector associations (the Portuguese Banking Association, the Portuguese Association of Insurers, Portuguese Association of Investment Funds, Pension Funds and Asset Management and the Association of Specialised Credit Institutions).
This publication aims to support the financial education of younger people. We are certain that it will allow them to exercise responsible financial citizenship in the future.

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BANCO DE PORTUGAL EUROSISTEMA

CMVM COMISSÃO DO MERCADO DE VALORES MOBILIÁRIOS

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