

## Study Unit 2: Accounting Equation

### Learning objectives

By the end of this chapter, the learner should be able to;

1. Understand and demonstrate the accounting equation
2. Define the elements of the accounting equation
3. Be able to draw up simple balance sheets after different transactions have occurred

### Introduction

In the last chapter, we saw the framework within which accountants are supposed to present financial accountability. In this chapter, we will ably show that the whole of financial accounting is based on a very simple idea - the accounting equation.

The balance sheet of an enterprise is a statement of the financial position of that enterprise at a given date. It represents the assets and liabilities of that business. The fundamental equation of financial accounting is the equality between assets and liabilities.

The accounting equation is the elementary presentation of the balance sheet. It consists of three elements: the assets, liabilities and owners equity. The assets are the resources that are owned by the business while liabilities and owners equity represent who supplied the resources.

In business where the equity (capital) is contributed by the owner solely the resources owned will be equal to what the owner invested. (Assets = Equity). However most business concerns have liabilities and therefore, resources are supplied by the owner and liabilities like Trade creditors/Accounts payable.

### Definitions of elements in an accounting equation

**Assets:** are defined as economic resources which are owned by the business and are expected to benefit future operations. Assets are also defined as anything of value that is owned by the organisation excluding human resources (at least the purpose of this text).

The assets may exist in their physical form such as the buildings and machinery while other assets may not physically exist for example investments in the treasury bills amounts due to customers.

### We classify assets as

- Non current assets or fixed assets
- Current assets

**Non current assets/ Fixed Assets:** are assets which will be used in the business for a number of years specifically for more than one year. Examples of non current assets are Motor vehicles. Buildings, Plant and machinery: Equipment, Land, Fixtures and Fitting etc.

**Current assets:** are assets that will be easily realized (turned into cash) or are quickly consumed in the operation of the business. The current assets have a short life and are expected to be consumed within a period of one year. Current assets are short-term assets. Examples of current assets include A/Cs receivables/trade debtors, inventory/stock, bank, prepaid expenses, accrued income, cash at hand.

**Liabilities:** These obligations transfer out organization's economic benefits. They are amounts owed or debts to other organisations – in short-term, the financial obligations of a business. Liabilities are classified according to their settlement period. Liabilities are classified as

- Current liabilities
- Non current liabilities

**Current liabilities:** These are obligations, which have to be settled within a period of one year. They are payable by the business within one year of the balance sheet date. Examples include A/Cs payable/trade creditors, prepaid incomes, accrued expenses, short-term loans and bank overdrafts.

**Non-current/long-term liabilities:** are obligations that have to be settled within a period of more than one year. So they are payable by the business within one year of the balance sheet date. Examples include long-term bank loans, capital, debentures, and so on.

### **Owner's equity**

This represents the resources that are invested by the owner. It variously means claims from the business by the owners. It is Capital introduced in the business by owners and is intended to remain in the business for as long as it continues to exist (see Going Concern Principle in Chapter 1). We define capital as that wealth which is set aside to assist in the creation of further wealth. In the sole proprietorship business owners equity comprises of the individual funds contributed while in the company owners equity comprises of preference and ordinary share capital, reserves (retained earnings, revaluations and general reserves).

We present the accounting equation is mathematically as;

<b>Assets</b>	<b>=</b>	<b>Liabilities</b>	<b>+</b>	<b>Owners equity</b>
Anything that is owned by business		what the business owes others		owners funds invested in the business

Capital + Liabilities = Assets

OR

Capital = Assets – Liabilities

OR

Capital = Net Assets

### Illustration

Mukasa is a sole trader who set up his business in Kisenyi. The following were the transactions that took place in the month of January. Amounts are in UGX.

- i. Started business with cash of 10,000,000 and cash at bank of 20,000,000
- ii. Purchased stock of goods on credit of 3,000,000
- iii. Bought a motor vehicle for business operations using the cash at bank of 2,000,000
- iv. Sold goods to James for 600,000 cash which had cost him 500,000
- v. Paid shopkeeper 50,000 cash as salary
- vi. Bought more stock of goods for 500,000 cash
- vii. Used business cash of 300,000 to buy for his wife and children Christmas clothes.

**Required:** construct an accounting equation for each of the transactions above and extract prepare a simple balance sheet at the end.

i)

Assets =		Liabilities	+ Owners equity
Bank	20,000,000	.....	Capital 30,000,000
Cash	10,000,000		
	<u>30,000,000</u>		<u>30,000,000</u>

ii)

<b>Assets =</b>	<b>Liabilities</b>	<b>+ Owners equity</b>
Stock      3,000,000	Trade creditors 3,000,000	Capital      30,000,000
Bank      20,000,000		
Cash      10,000,000		
<u>33,000,000</u>		<u>33,000,000</u>

iii)

<b>Assets =</b>	<b>Liabilities</b>	<b>+ Owners equity</b>
M/vehicle      2,000,000	Trade creditors 3,000,000	Capital      30,000,000
Stock      3,000,000		
Bank      18,000,000		
Cash      10,000,000		
<u>33,000,000</u>		<u>33,000,000</u>

iv)

<b>Assets =</b>	<b>Liabilities</b>	<b>+ Owners equity</b>
M/vehicle      2,000,000		
Stock      2,500,000	Trade creditors 3,000,000	Capital      30,000,000
Bank      18,000,000		Profit      100,000
Cash      10,600,000		
<u>33,100,000</u>		<u>33,100,000</u>

v)

<b>Assets =</b>	<b>Liabilities</b>	<b>+ Owners equity</b>
M/vehicle      2,000,000		
Stock      2,500,000	Trade creditors 3,000,000	Capital      30,000,000

Bank	18,000,000		Profit	50,000
Cash	10,550,000			
	<u>33,050,000</u>			<u>33,050,000</u>

vi)

<b>Assets =</b>		<b>Liabilities</b>	<b>+ Owners equity</b>	
M/vehicle	2,000,000			
Stock	3,000,000	Trade creditors 3,000,000	Capital	30,000,000
Bank	18,000,000		Profit	50,000
Cash	10,050,000			
	<u>33,050,000</u>			<u>33,050,000</u>

vii)

<b>Assets =</b>		<b>Liabilities</b>	<b>+ Owners equity</b>	
M/vehicle	2,000,000			
Stock	3,000,000	Trade creditors 3,000,000	Capital	30,000,000
Bank	18,000,000		Profit	50,000
Cash	9,750,000		Drawings	(300,000)
	<u>32,750,000</u>			<u>32,750,000</u>

**Mukasa's Balance Sheet as at.....**

<b>Non Current Assets</b>		<b>Equity and Liabilities</b>	
Motor Vehicle	2,000,000	Capital	30,000,000
<b>Current Assets</b>		Profit	50,000
Stock	3,000,000	Less drawings	(300,000)
Bank	18,000,000	<b>Current liabilities</b>	

Cash	9,750,000	Trade creditors	3,000,000
<b>Total Assets</b>	<b>32,750,000</b>	<b>Total equity &amp; liabilities</b>	<b>32,750,000</b>

## Illustration Two

Mukwano is a businessperson dealing in general merchandise. Below is the transactions for the month of January. Show the accounting equation and the balance sheet for the transactions below.

- i. He started business with a lorry of 30,000,000 and cash at bank of 20,000,000.
- ii. A motor vehicle of 10,000,000 was bought on credit from Lonhro Ltd
- iii. He bought inventory of 6,000,000 using a cheque
- iv. Bought furniture of 4,200,000 from Hwan Sung on credit
- v. He used his salary to buy a shirt of 80,000
- vi. He sold 2/3 of the inventory for 3,000,000 cash
- vii. Secured a DFCU loan of 5, 000,000 which was deposited on his bank account to be paid within one year.
- viii. Paid Hwan Sung 2,200,000 cash
- ix. Paid utilities for 800,000 by cheque
- x. He used the business debt card to withdraw 1,000,000 for buying a mobile phone for his girlfriend.

## Solution

i)

<b>Assets =</b>	<b>Liabilities</b>	<b>+ Owners equity</b>
Lorry 30,000,000	.....	+ Capital 50,000,000
Bank 20,000,000		
<u>50,000,000</u>		<u>50,000,000</u>

ii)

<b>Assets =</b>	<b>Liabilities</b>	<b>+ Owners equity</b>
Lorry 30,000,000	Lonhro ltd 10,000,000	+ Capital 50,000,000
M/vehicle 10,000,000		
Bank 20,000,000		
<u>60,000,000</u>		<u>60,000,000</u>

iii)

<b>Assets =</b>	<b>Liabilities</b>	<b>+ Owners equity</b>
Lorry 30,000,000	Lonhro ltd 10,000,000	+ Capital 50,000,000
M/vehicle 10,000,000		
Inventory 6,000,000		
Bank 14,000,000		
<u>60,000,000</u>		<u>60,000,000</u>

iv)

<b>Assets =</b>	<b>Liabilities</b>	<b>+ Owners equity</b>
Lorry 30,000,000	Lonhro Ltd 10,000,000	+ Capital 50,000,000
M/vehicle 10,000,000	Hwan Sung 4,200,000	
Furniture 4,200,000		

Inventory	6,000,000		
Bank	14,000,000		
	<u>64,200,000</u>		<u>64,200,000</u>

v)

Assets =		Liabilities	+ Owners equity
Lorry	30,000,000	Lonhro Ltd 10,000,000	+ Capital 50,000,000
M/vehicle	10,000,000	Hwan Sung 4,200,000	
Furniture	4,200,000		
Inventory	6,000,000		
Bank	14,000,000		
	<u>64,200,000</u>		<u>64,200,000</u>

vi)

Assets =		Liabilities	+ Owners equity
Lorry	30,000,000	Lonhro Ltd 10,000,000	+ Capital 50,000,000
M/vehicle	10,000,000	Hwan Sung 4,200,000	Loss (1,000,000)
Furniture	4,200,000		
Inventory	2,000,000		
Bank	14,000,000		
Cash	3,000,000		
	<u>63,200,000</u>		<u>63,200,000</u>

vii)

Assets =		Liabilities	+ Owners equity
Lorry	30,000,000	Lonhro Ltd 10,000,000	+ Capital 50,000,000



M/vehicle	10,000,000	Hwan Sung	4,200,000	Loss	(1,000,000)
Furniture	4,200,000	DFCU loan	5,000,000		
Inventory	2,000,000				
Bank	19,000,000				
Cash	3,000,000				
	<u>68,200,000</u>			<u>68,200,000</u>	

viii)

<b>Assets =</b>		<b>Liabilities</b>		<b>+ Owners equity</b>	
Lorry	30,000,000	Lonhro Ltd	10,000,000	+ Capital	50,000,000
M/vehicle	10,000,000	Hwan Sung	2,000,000	Loss	(1,000,000)
Furniture	4,200,000	DFCU loan	5,000,000		
Inventory	2,000,000				
Bank	19,000,000				
Cash	800,000				
	<u>66,000,000</u>			<u>66,000,000</u>	

ix)

<b>Assets =</b>		<b>Liabilities</b>		<b>+ Owners equity</b>	
Lorry	30,000,000	Lonhro Ltd	10,000,000	+ Capital	50,000,000
M/vehicle	10,000,000	Hwan Sung	2,000,000	Loss	(1,800,000)
Furniture	4,200,000	DFCU loan	5,000,000		
Inventory	2,000,000				
Bank	18,000,000				

Cash	800,000		
	<u>65,200,000</u>		<u>65,200,000</u>

x)

<b>Assets =</b>		<b>Liabilities</b>	<b>+ Owners equity</b>
Lorry	30,000,000	Lonhro Ltd	+ Capital 50,000,000
M/vehicle	10,000,000	Hwan Sung	Loss (1,800,000)
Furniture	4,200,000	DFCU loan	Drawings (1,000,000)
Inventory	2,000,000		
Bank	17,200,000		
Cash	800,000		
	<u>64,200,000</u>		<u>64,200,000</u>

#### Mukwano's Balance Sheet as at.....

<b>Non Current Assets</b>		<b>Equity and Liabilities</b>	
Lorry	30,000,000	Capital	50,000,000
Motor vehicle	10,000,000	Loss	(1,800,000)
Furniture	<u>4,200,000</u>	Drawings	(1,000,000)
	44,200,000		
<b>Current Assets</b>		<b>Current liabilities</b>	
Inventory	2,000,000	Lohro ltd	10,000,000
Bank	17,000,000	Hwan sung	2,000,000
Cash	800,000 <u>20,000,000</u>	DFCU loan	5,000,000
<b>Total Assets</b>	<b>64,200,000</b>	<b>Total equity &amp; liabilities</b>	<b>64,200,000</b>

#### Conclusion

In the forgoing chapter, we have been able to demonstrate the fundamental accounting equation that is the pivotal of the balance sheet. It is a fact that the totals of each side of the balance sheet will always equal one another and this will always be true no matter how many transactions there may be! The actual assets, capital and liabilities may change, but the total of the assets will always equal to the total of capital and liabilities.

## TUTOR MARKED QUESTIONS

### Multiple-choice questions

1) The following are not Liabilities except

a)Creditors for goods b)Machinery c)Cash at bank d)Motor vehicle e)None

2) One of the statements is incorrect. Which one is it?

a) Assets – Capital = Liabilities b) Assets – Liabilities = Capital

c) Liabilities + Assets = Capital d) Liabilities + Capital = Assets e) None

3) One of the following is incorrect. Which one is it?

Assets (UGX)	Liabilities (UGX)	Capital (UGX)
(a) 6,540,000	1,120,000	5,420,000
(b) 7,850,000	1,250,000	6,600,000
(c) 9,550,000	1,150,000	8,200,000
(d) 8,200,000	2,800,000	5,400,000
(e) None		

4) Given the following, what is the amount of capital? Assets: Premises UGX.20M, Inventory UGX.8.5M, Liabilities: Creditors UGX.3M, Loan from a cousin UGX.35.6M

(a) None (b) UGX.21.1M (c) UGX.21.6m (d)UGX.32.4M (e) UGX.35.6M

5) The following are incorrect except

(a) Profit increase capital

(b) Profit does not alter capital

(c) Profit reduces capital

(d) Capital only comes from profit

6) The following should be called sales except

(a) Goods sold on credit (b) sales of an item previously included in purchases

(c) Purchases by peter from us (d) office fixtures sold (e) none

7) In the sole proprietorship business, owner's equity comprises of the individual funds contributed while in the company, owner's equity comprises of preference and ordinary share capital, and reserves (retained earnings, revaluations and general reserves).

(a) This is a true statement

(b) This statement is untrue

(c) This statement is somehow true

(d) It is correct only that we should remove preference

e) Me, I don't know

8) The accounting equation is the elementary presentation of the balance sheet. It consists of the following elements except.

(a) Assets

(b) Revenue

(c) Liabilities

(d) Equity interest

(e) None

9) Non-current/long term liabilities are obligations that have to be settled within a period of more than one year. So they are payable by the business at a date more than one year from the balance sheet date. The following are examples except

(a) Long-term bank loan (b) capital (c) debentures (d) preference shares (e) none

10) In business where the equity (capital) is contributed by the owner solely the following will not be true;

(a) Resources owned will be equal to what the owner invested

(b)  $\text{Assets} = \text{Capital} + \text{Liabilities}$  (c)  $\text{Assets} = \text{Equity Interest}$

(d) None

(e) Owner will bear all the risks

11) Which of the following is not an Asset?

(a) Motor vehicle

(b) incomes

(c) rent

(d) (a)

(e) (b) & (c)

### Other questions

1. Newton is a businessperson in Masaka. The following were transactions that transpired in the month of April. Amounts are in UGX.

- i. Started business with cash of 10,000,000.
- ii. Bought stock of goods using 3,000,000 cash.
- iii. He bought land using a bank loan of 4,000,000 to be repaid in 2 years.
- iv. Sold stock of goods 400,000 cash which had cost him 300,000.
- v. Paid water and electricity bills of 60,000 cash.
- vi. He sold goods on credit of 1,000,000.

- vii. To ease the transportation of stock he bought a motor vehicle using cash 3,000,000.

**Required:** construct an accounting equation for each the above transactions and the balance sheet extract.

2. Muggaga is an entrepreneur owning a manufacturing firm in the industrial area. The following are the enterprises transactions for the month of October.

- i. Started business with 100,000,000 on his bank account obtained as a retirement benefit.
- ii. Bought a building of 60, 000, 0000 by cheque
- iii. Rent out part of the building and received 4,000,000 cash
- iv. He bought a computer from copy cat ltd for storing the company's records paying 2,000,000 cash and promising to pay the balance later of 500,000
- v. The company's assets were depreciated at 10% on cost
- vi. He withdrew 600,000 to shop for his concubine in the garden city
- vii. Obtained a mortgage from housing finance of 22,000,000 cash
- viii. Paid fuel of 200,000 cash and parking tickets of 40,000 cash
- ix. Paid copy cat ltd its outstanding balance using cash
- x. Invested a cheque of 20,000,000 in treasury bills

**Required:** Construct an accounting equation for each of the above transactions and extract a balance sheet at the end.

### **Self-review question-study unit 2**

- a) State and describe the elements of the accounting equation.
- b) John is a businessperson in Mbarara. The following were transactions that transpired in the month of April 2019. Amounts are in UGX.
  - 1. Started business with cash of 10,000,000.
  - 2. Bought stock of goods using 3,000,000 cash.
  - 3. He bought land using a bank loan of 4,000,000 to be repaid in 2 years.
  - 4. Sold stock of goods 400,000 cash which had cost him 300,000.
  - 5. Paid water and electricity bills of 60,000 cash.
  - 6. He sold goods on credit of 1,000,000.
  - 7. To ease the transportation of stock he bought a motor vehicle using cash 3,000,000.

**Required:**

Construct an accounting equation for each the above transactions and the balance sheet extract.

**Self-review answer-study unit 2**

- a) Assets - (Current Assets and Fixed Assets)  
 Liabilities - (Current Liabilities and Long Term Liabilities)  
 Capital/Owners Equity

i)

Assets =		Liabilities		+ Owners equity
Cash	10,000,000			Capital 10,000,000
	<u>10,000,000</u>			<u>10,000,000</u>

ii)

Assets =		Liabilities		+ Owners equity
Cash	7,000,000			Capital 10,000,000
Stock	3,000,000			
	<u>10,000,000</u>			<u>10,000,000</u>

iii)

Assets =		Liabilities		+ Owners equity
Cash	7,000,000			Capital 10,000,000
Stock	3,000,000	Bank	4,000,000	
Land	4,000,000			
	<u>14,000,000</u>			<u>14,000,000</u>

iv)

Assets =		Liabilities		+ Owners equity
Cash	7,400,000			Capital 10,000,000

Stock	2,700,000	Bank	4,000,000	Profit	100,000
Land	4,000,000				
	<u>14,100,000</u>				<u>14,100,000</u>

v)

Assets =		Liabilities		+ Owners equity	
Cash	7,340,000			Capital	10,000,000
Stock	2,700,000	Bank	4,000,000	Profit	40,000
Land	4,000,000				
	<u>14,040,000</u>				<u>14,040,000</u>

vi)

Assets =		Liabilities		+ Owners equity	
Cash	7,340,000			Capital	10,000,000
Stock	1,700,000	Bank	4,000,000	Profit	40,000
Land	4,000,000				
Add debtor	1,000,000				
	<u>14,040,000</u>				<u>14,040,000</u>

vii)

Assets =		Liabilities	+ Owners equity		
Cash	4,340,000		Capital	10,000,000	
Motor vehicle	3,000,000				
Stock	1,700,000	Bank	4,000,000	Profit	40,000
Land	4,000,000				
Add debtor	1,000,000				
	<u>14,040,000</u>				<u>14,040,000</u>

# John's Balance Sheet

As at 31<sup>st</sup> April 2019

Non Current Assets		Equity and Liabilities	
Motor Vehicle	3,000,000	Capital	10,000,000
Current Assets		Profit	40,000
Stock	1,700,000		
Land	4,000,000	Long term Liabilities	
Cash	4,340,000	Bank	4,000,000
<b>Total Assets</b>	<b>14,040,000</b>	<b>Total equity &amp; liabilities</b>	<b>14,040,000</b>