Master in Management
FINANCIAL
AND
ESG REPORTING
Class 2

Lisbon School of Economics & Management
Universidade de Lisboa

Exam time:

Individual written test: 25 Oct Friday

Objective of this class:

1. Financial statements
2. Managerial balance sheet
3. Ratio analysis
4. Exercise- Pontoon plc

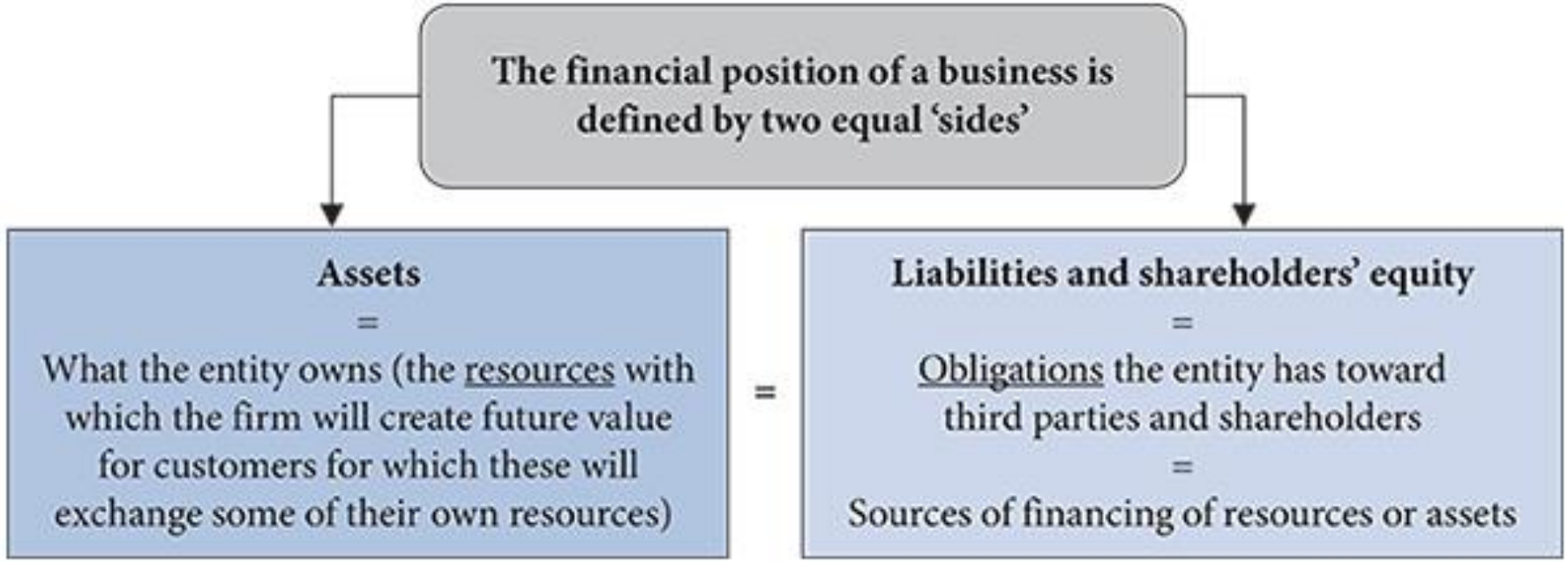
Financial statements

Financial statements

- Statement of financial position (balance sheet)
- Statement of profit and loss (P&L) and other comprehensive income
- Statement of changes in equity
- Statement of cash flows
- Notes

- Financial statements are prepared according to accounting standards (accounting principles). There are two prevailing systems of accounting standards:
  - Generally Accepted Accounting Principles (GAAP)
  - International Financial Reporting Standards (IFRS)

Statement of financial position/balance sheet



Source: Hervé Stolowy, Yuan Ding, Luc Paugam, *Financial Accounting and Reporting*, 7th Edition.

Statement of financial position/balance sheet

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Assets						
• *Current assets*						
Cash[1]		$ 6.0		$ 12.0		$ 8.0
Accounts receivable		44.0		48.0		56.0
Inventories		52.0		57.0		72.0
Prepaid expenses[2]		2.0		2.0		1.0
Total current assets		104.0		119.0		137.0
• *Noncurrent assets*						
Financial assets and intangibles		0.0		0.0		0.0
Property, plant, and equipment						
Gross value[3]	$90.0		$90.0		$93.0	
Less: Accumulated depreciation	(34.0)	56.0	(39.0)	51.0	(40.0)	53.0
Total noncurrent assets		56.0		51.0		53.0
Total assets		$160.0		$170.0		$190.0

Statement of financial position

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Liabilities and owners' equity						
• *Current liabilities*						
Short-term debt		$ 15.0		$ 22.0		$ 23.0
Owed to banks	$ 7.0		$14.0		$15.0	
Current portion of long-term debt	8.0		8.0		8.0	
Accounts payable		37.0		40.0		48.0
Accrued expenses[4]		2.0		4.0		4.0
Total current liabilities		54.0		66.0		75.0
• *Noncurrent liabilities*						
Long-term debt[5]		42.0		34.0		38.0
Total noncurrent liabilities		42.0		34.0		38.0
• *Owners'equity*[6]		64.0		70.0		77.0
Total liabilities and owners' equity		$160.0		$170.0		$190.0

Statement of financial position

- The fundamental balance sheet equation:

$$\text{Owners' equity} = \text{Assets} - \text{Liabilities} \qquad (2.1)$$

$$\text{Assets} = \text{Liabilities} + \text{Owners' equity} \qquad (2.2)$$

- List of resources and obligations may be presented either in increasing or decreasing order of liquidity and maturity.
- The ordering preference must apply homogenously to both assets, on the one hand, and liabilities and shareholders' equity, on the other.

Statement of financial position

Current or Short-Term Assets

- **Cash and Cash Equivalents**
  - cash
  - marketable securities
- **Accounts Receivable**
  - also called **trade receivables** or **trade debtors**
- **Inventories**
  - raw material, work-in-process and finished good inventory
- **Prepaid Expenses**

Statement of financial position

Noncurrent or Fixed Assets

- Property, plant and equipment
- Intangible assets
- Other non-current assets

Statement of financial position

Noncurrent or Fixed Assets

- **TANGIBLE ASSETS AND NET BOOK VALUE**
- They are reported at their net book value, the difference between their gross value (acquisition value) less accumulated depreciation and impairment losses

Net fixed assets at the end of a period =
Net fixed assets at the beginning of the period
+ Gross value of fixed assets acquired during the period
– Net book value of fixed assets sold during the period
– Depreciation charges for the period

The net fixed asset information in any company helps the company's stakeholders know the financial reporting, financial analysis, and business valuation. It helps determine the financial health of the company.

Statement of financial position

Noncurrent or Fixed Assets

TANGIBLE ASSETS AND NET BOOK VALUE

FIGURES IN MILLIONS

	Straight-Line Method			Accelerated Method		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Gross value (acquisition cost)	$300	$300	$300	$300	$300	$300
Annual depreciation charge	($100)	($100)	($100)	($150)	($100)	($ 50)
Accumulated depreciation	(100)	(200)	(300)	(150)	(250)	(300)
Net book value	$200	$100	$ 0	$150	$ 50	$ 0

Statement of financial position

Noncurrent or Fixed Assets

Example: In the year to 31 December, Hans bought a new fixed asset and made the following payments in relation to it (in Euros):

- ✓ Acquisition cost (as per supplier's list) 12 000
- ✓ Agreed discount 1 000
- ✓ Delivery charge 100
- ✓ Assembly charge 200
- ✓ Maintenance charge 300
- ✓ Additional component to increase capacity 400
- ✓ Replacement parts 250

Statement of financial position

Noncurrent or Fixed Assets

Discuss:

- State and justify the cost figure which should be used as the basis for depreciation.
- What does depreciation do and why is it necessary?
- It has been common practice in published accounts of individual entities in Germany to use the reducing balance method for a fixed asset in the early years of its life, and then to change to the straight line method as soon as this would give a higher annual charge. What do you think of this practice?

Statement of financial position

Current Liabilities

- Short-term liabilities with a maturity shorter than 12 months
- Short-Term debt (notes payable, overdrafts)
- Accounts Payable (or trade payables)
- Accrued Expenses

Statement of financial position

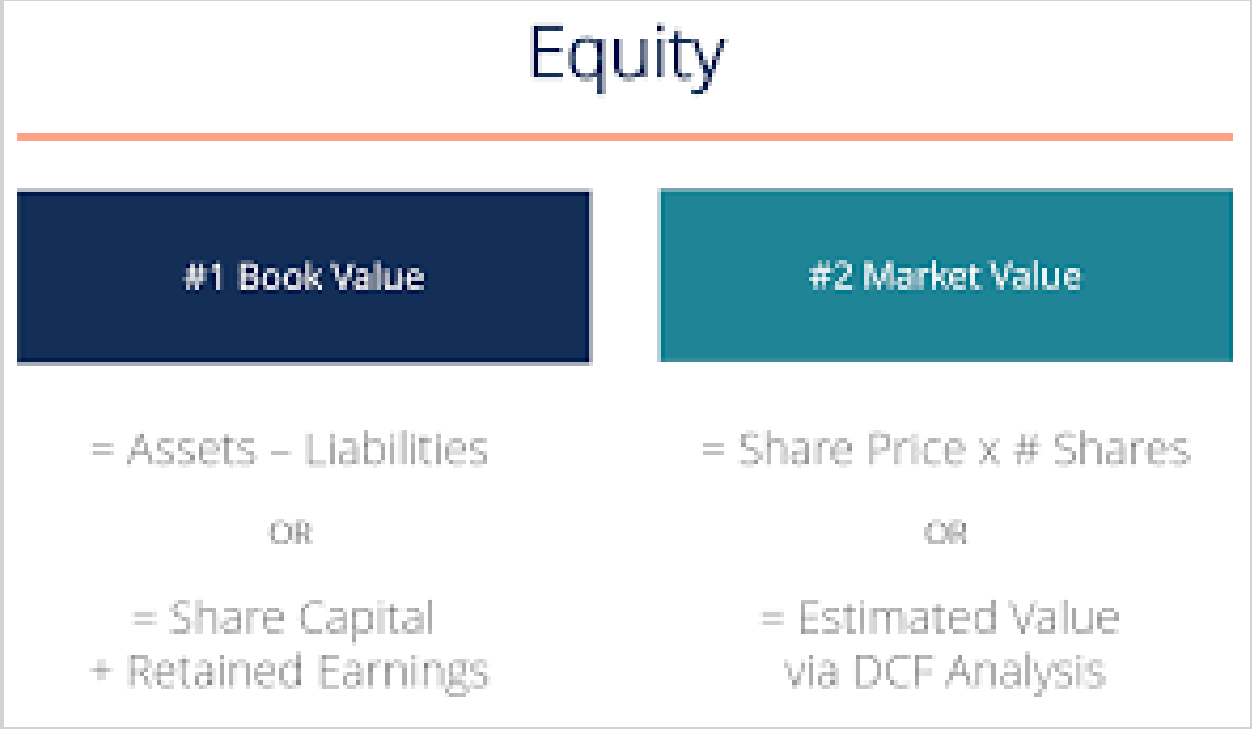
Noncurrent Liabilities

- Long-term liabilities have a maturity longer than a year
- Long-term debt
- Pension liabilities
- Deferred taxes

Long-term debt at the end of a period =
Long-term debt at the beginning of the period
– Portion of long-term debt due during the period
+ New long-term debt issued during the period

Statement of financial position

- **Owners' equity**:
  - *increases* (*decreases*) when the firm shows a profit (loss)
  - *decreases* when the firm declares a **cash dividend**
  -
- **Retained earnings = EAT – Dividends**
- **Owners' equity** also:
  - *increases* when the firm issues new shares
  - *decreases* when the firm repurchases its own shares
-



Statement of financial position

- The owners' equity account represents the accumulated changes in owner's equity since the firm's inception.

FIGURES IN MILLIONS		
Common stock	$10	
10,000,000 shares at par value of $1		
Paid-in capital in excess of par	20	
Accumulated retained earnings	47	
Owners' equity		**$77**

Statement of P&L (income statement)

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•	Net sales	$390.0	*100.0%*	$420.0	*100.0%*	$480.0	*100.0%*
	Cost of goods sold	328.0		353.0		400.0	
•	Gross profit	62.0	*15.9%*	67.0	*16.0%*	80.0	*16.7%*
	Selling, general, and administrative expenses	39.8		43.7		48.0	
	Depreciation expenses	5.0		5.0		8.0	
•	Operating profit	17.2	*4.4%*	18.3	*4.4%*	24.0	*5.0%*
	Extraordinary items	0.0		0.0		0.0	
•	Earnings before interest and tax (EBIT)	17.2	*4.4%*	18.3	*4.4%*	24.0	*5.0%*
	Net interest expenses[1]	5.5		5.0		7.0	
•	Earnings before tax (EBT)	11.7	*3.0%*	13.3	*3.2%*	17.0	*3.5%*
	Income tax expenses	4.7		5.3		6.8	
•	Earnings after tax (EAT)	$ 7.0	*1.8%*	$8.0	0.9%	$ 10.2	*2.1%*
	Dividends	$ 2.0		$ 2.0		$ 3.2	
•	Addition to retained earnings	$ 5.0		$ 6.0		$ 7.0	

Statement of P&L

- Records transactions that change owners' equity during the accounting period
- Revenues (IFRS 15): An entity should recognise revenue when a performance obligation is satisfied by transferring a promised good or service to a customer. Revenues increase owners' equity. **Judgement!!**
- Expenses must be classified according to their nature or function. Expenses are transactions decreasing owners' equity.
- The fundamental income statement equation:
-

$$\text{Earnings after tax} = \text{Revenues} - \text{Expenses} \qquad (2.5)$$

Statement of P&L

- **Net sales** are recorded net of any discounts and allowances for defective merchandise
- **Cost of goods sold (COGS)** or **Cost of sales** is the cost of goods the firm has sold during the accounting period
- For a distribution company COGS is the cost of items sold from inventory plus other direct costs.
- **Gross profit = Net sales – COGS**

Statement of P&L

- **Selling, general, and administrative expenses** (**SG&A**) are expenses that relate to the sale of products and running of operations
- **Depreciation expense** represent the cost of fixed assets that is allocated to the accounting period
- **Operating profit = Gross profit**
  - **– SG&A expenses**
  - **– Depreciation expense**

Statement of P&L

- **Net interest expense** is the difference between the interest expenses incurred by the firm from borrowing and any income it receives from financial investments during the accounting period

- **Earnings before tax (EBT):**

EBT = EBIT – Net interest expense

Statement of P&L

- **The income tax expense** account is a tax provision. It can differ from the actual tax that the firm must pay. The difference is accounted for in the deferred tax account in the balance sheet.
- **Earnings after tax (EAT)** or **net profit** or **net income**

EAT = EBT – Income tax expense

- EAT measures the net change in owners' equity resulting from the transactions recorded in the income statement during the accounting period

Statement of P&L – accounting principles

Two basic principles of accrual accounting:

- **Realization principle**: a revenue is recorded when the transaction takes place, not when the cash is received
- **Matching principle**: an expense associated with a revenue is recognized along with the revenue, not when paid

Statement of cash-flows

• Cash flows from operating activities				
(+) Earnings after tax	$8.0		$10.2	
(+) Depreciation expense	5.0		8.0	
(–) Change in working capital requirement	(4.0)		(14.0)	
A. Net cash flow provided by operating activities		$9.0		$4.2
• Cash flows from investing activities				
(+) Sale of fixed assets	0.0		2.0	
(–) Capital expenditures and acquisitions	0.0		(12.0)	
B. Net cash flow from investing activities		$0.0		($10.0)
• Cash flows from financing activities				
(+) Increase in long-term borrowings	0.0		12.0	
(+) Increase in short-term borrowings	7.0		1.0	
(–) Long-term debt repaid	(8.0)		(8.0)	
(–) Dividend payments	(2.0)		(3.2)	
C. Net cash flow from financing activities		($3.0)		$1.8
D. Total net cash flow (A + B + C)		$6.0		($4.0)
E. Opening cash		$6.0		$12.0
F. Closing cash (E + D)		$12.0		$8.0

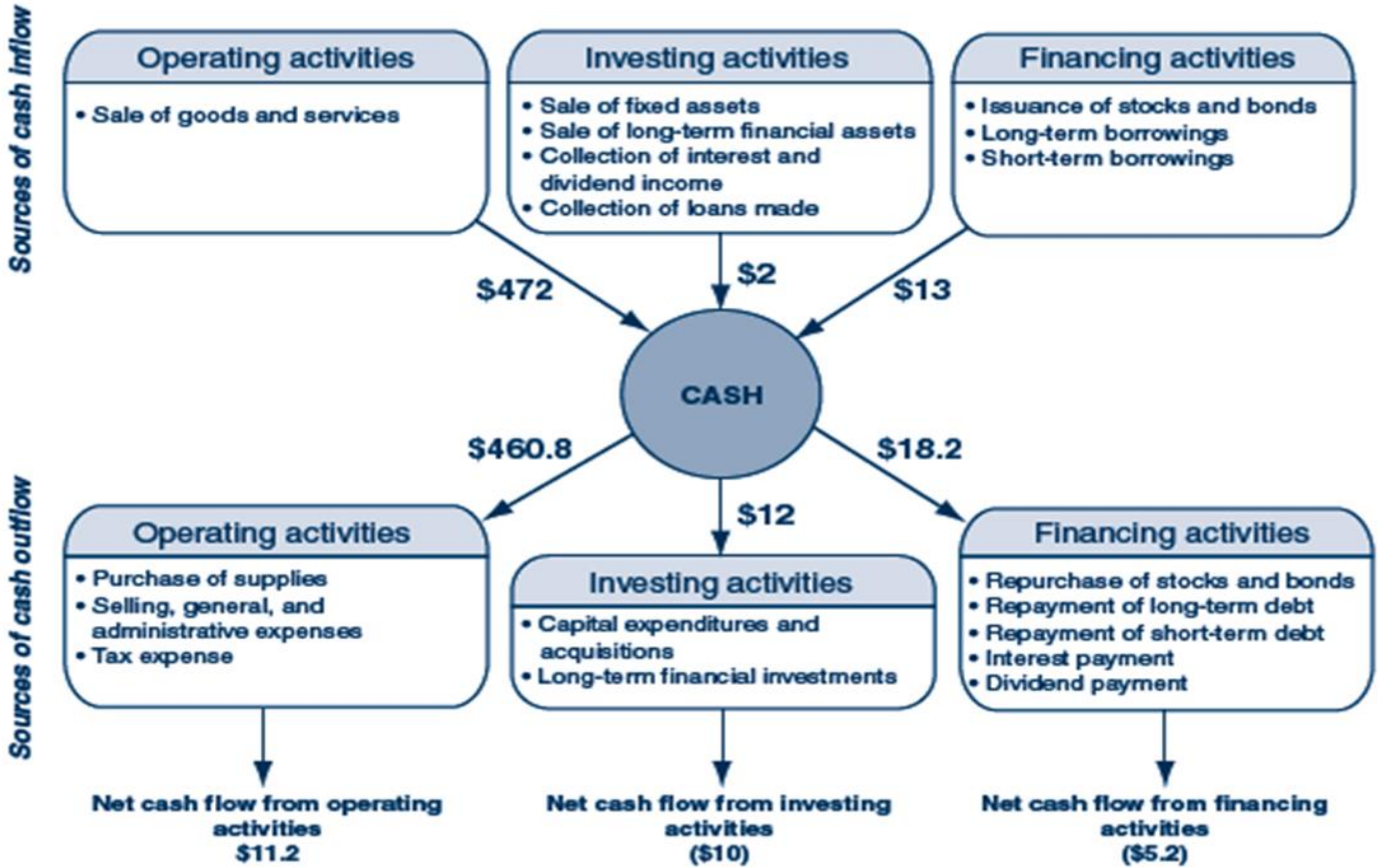
Statement of cash-flows

- **Net Operating Cash-Flow (NOCF) =** Cash inflow from operations – Cash outflows from operations
- Represents the cash generated or used by a company's core operating activities
- Direct method
- Indirect method

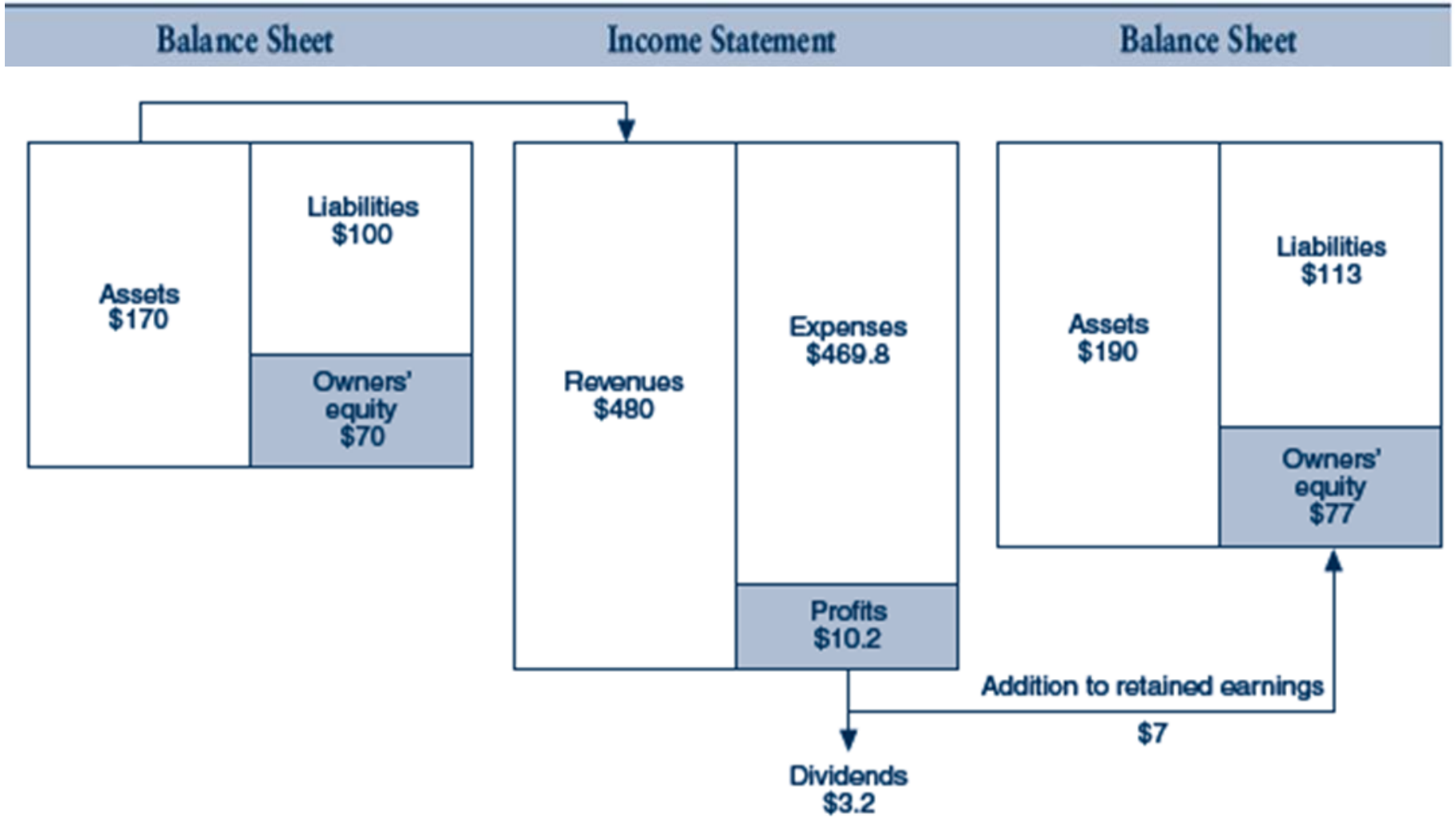
Statement of cash-flows

- **Net cash flow from investing activities**
  - Net fixed assets acquisitions and disposals

- **Net cash flow from financing activities**
  - increase in long-term and short-term borrowings
  - long-term debt repaid
  - interest and dividend payments


Sources of cash inflow
Operating activities
• Sale of goods and services
Investing activities
• Sale of fixed assets
• Sale of long-term financial assets
• Collection of interest and dividend income
• Collection of loans made
Financing activities
• Issuance of stocks and bonds
• Long-term borrowings
• Short-term borrowings
$472
$2
$13
CASH
$460.8
$12
$18.2
Sources of cash outflow
Operating activities
• Purchase of supplies
• Selling, general, and administrative expenses
• Tax expense
Investing activities
• Capital expenditures and acquisitions
• Long-term financial investments
Financing activities
• Repurchase of stocks and bonds
• Repayment of long-term debt
• Repayment of short-term debt
• Interest payment
• Dividend payment
Net cash flow from operating activities
$11.2
Net cash flow from investing activities
($10)
Net cash flow from financing activities
($5.2)

Reconciling financial statements



Financial and ESG Reporting

Managerial balance sheet

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THE MANAGERIAL BALANCE SHEET

WORKING CAPITAL REQUIREMENTS

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$$\text{Invested capital} = \text{Cash} + \text{Working capital requirement} + \text{Net fixed assets}$$

$$\text{Capital employed} = \text{Short-term debt} + \text{Long-term debt} + \text{Owners' equity}$$

$$\text{Working capital requirement (WCR)}$$
$$=$$
$$[\text{Operating assets}] - [\text{Operating liabilities}]$$
$$=$$
$$[\text{Accounts receivable} + \text{Inventories} + \text{Prepaid expenses}]$$
$$-[\text{Accounts payable} + \text{Accrued expenses}]$$

THE MANAGERIAL BALANCE SHEET

WORKING CAPITAL REQUIREMENTS

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Invested capital									
• Cash		$ 6.0	5%		$ 12.0	10%		$ 8.0	6%
• Working capital requirement (WCR)[1]		59.0	49%		63.0	50%		77.0	56%
• Net fixed assets		56.0	46%		51.0	40%		53.0	38%
Total invested capital		**$121.0**	100%		**$126.0**	100%		**$138.0**	100%
Capital employed									
• Short-term debt		$ 15.0	12%		$ 22.0	17%		$ 23.0	17%
• Long-term financing									
Long-term debt	$42.0			$34.0			$38.0		
Owners' equity	64.0	106.0	88%	70.0	104.0	83%	77.0	115.0	83%
Total capital employed		**$121.0**	100%		**$126.0**	100%		**$138.0**	100%

Financial and ESG Reporting

Ratio analysis

Ratio analysis

- A ratio is an expression of the relationship between figures in the financial statements.
- Ratio analysis enables users of financial statements to evaluate the financial performance and financial position of the reporting entity for the purpose of investment, lending, trading and other decisions.
- Ratios need to have a point of reference which may be through

○ comparison with the ratios of other entities (inter-firm), and/or (**horizontal**)

○ historical comparisons over time (**vertical**)

Ratio analysis

- Profitability
- Operational efficiency
- Liquidity
- Capital structure
- Investor ratios
- Value creation

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MEASURING PROFITABILITY

- **Gross profit margin**

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Sales}}$$

- **Return on sales (ROS)**

$$\text{ROS} = \frac{\text{Earnings after tax}}{\text{Sales}}$$

- **Return on assets (ROA)**

$$\text{ROA} = \frac{\text{Earnings after tax}}{\text{Total assets}}$$

MEASURING PROFITABILITY

- **Return on equity (ROE)**

$$\text{ROE} = \frac{\text{Net profit after interest and tax}}{\text{owners' equity}}$$

The return on shareholders funds compares the attributable profit with the shareholders' funds only.
Profitability is defined from the shareholders' point of view as relating to the profit available for distribution as dividends

- **Return on capital employed (ROCE)**

$$\text{ROCE} = \frac{\text{Profit before interest and tax}}{\text{Capital employed}}$$

Shareholders' funds+ non-current liabilities

The return on ***all*** the long-term capital invested in the business. This ratio compares profit *before* interest & tax with the sum of shareholders' funds and non-current liabilities

MEASURING OPERATIONAL EFFICIENCY

- Inventory Turnover PERIOD (AVERAGE AGE OF INVENTORY)

$$\text{Inventory turnover period} = \frac{\text{Inventories}}{\text{Cost of goods sold}} \times 365 \text{ days}$$

- RECEIVABLE COLLECTION PERIOD (AVERAGE AGE OF TRADE RECEIVABLES)

$$\text{Receivable collection period} = \frac{\text{Accounts receivable}}{\text{Sales}} \times 365 \text{ days}$$

- PAYABLE PAYMENT PERIOD

$$\text{Payable payment period} = \frac{\text{Accounts payable}}{\text{Cost of goods sold}} \times 365 \text{ days}$$

MEASURING LIQUIDITY

- THE CURRENT RATIO

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

- THE ACID TEST OR QUICK RATIO

$$\text{Acid test or quick ratio} = \frac{\text{Cash} + \text{Accounts receivable}}{\text{Current liabilities}}$$

MEASURING LIQUIDITY

- **INTEREST COVER RATIO**

$$\text{Interest cover ratio} = \frac{\text{Profit before interest and tax (EBIT)}}{\text{Interest payable}} = \text{X times}$$

- A measure of how easily the company can meet its interest payments, given the amount of operating profit available.

MEASURING CAPITAL STRUCTURE/LEVERAGE RATIOS

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- **GEARING**

$$\text{Gearing} = \frac{\text{Non-current liabilities (NCLs)}}{\text{Shareholders' funds} + \text{NCLs}}$$

- Many variations on the definition abound: adopt one from a reliable source & apply it consistently.

MEASURING INVESTOR RATIOS

- **EARNINGS PER SHARE (EPS)**

$$\text{Earnings per share (EPS)} = \frac{\text{Earnings after tax}}{\text{Number of shares outstanding}}$$

- **THE PRICE-TO-EARNINGS RATIO (P/E)**

$$\text{Price-to-earnings ratio (P/E)} = \frac{\text{Share price}}{\text{Earnings per share}}$$

- **THE MARKET-TO-BOOK RATIO**

$$\text{Market-to-book ratio} = \frac{\text{Share price}}{\text{Book value per share}}$$

MEASURING INVESTOR RATIOS

- **DIVIDEND COVER**

$$\text{Dividend cover} = \frac{\text{EPS}}{\text{Dividend}}$$

- Express as a number of times

- **DIVIDEND PAYOUT RATIO**

$$\text{Dividend payout ratio} = \frac{\text{Dividend per share}}{\text{EPS}} \times 100\%$$

- Express as a percentage

VALUE CREATION: LINKING VALUE CREATION, OPERATING PROFITABILITY, COST OF CAPITAL, AND GROWTH OPPORTUNITIES

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- Accounting profits are measures of performance derived from income statements that do not account for the amount of invested capital used to generate those profits

- Economic profits account for both: accounting profits and use of invested capital. The most frequently used economic profit is **economic value added** (**EVA**)

EVA = NOPAT - (Invested Capital × WACC)

*NOPAT: net operating profit after tax

*Weighted average cost of capital (WACC)= Kd x (1- Tax rate) × % of debt + Ke × % of equity

clearly shows that a positive return spread implies a positive EVA, which implies value creation

Exercise-Pontoon plc

Financial and ESG Reporting

Summary:

1. Financial statements
2. Managerial balance sheet
3. Ratio analysis
4. Exercise-Pontoon plc