

# **MODULE 03: FINANCIAL ANALYSIS**

## **Lecture Title 05: ACCOUNTING RATIOS & SOURCES OF FINANCE**

**Lecturer: Antoine Portelli**

**Date: 4 February 2023**



**Undergraduate Diploma in  
Business Administration**

# What we covered in Lecture 04

- Profitability Ratios
- Efficiency Ratios



# Use of Ratio Analysis

- Ratios are useful because:
  - Provide a quick and simple means of interpreting a business' financial information
  - Provide a picture of a company's financial health
  - They enable comparisons between companies that may differ in size (direct comparison of figures may be misleading)
  - Highlight financial strengths and weaknesses of the business



# Classifications of Ratios

Ratios may be grouped into the following categories:

- Profitability
- Efficiency
  
- Liquidity
- Financial gearing
- Investment



# Profitability Ratios

How successful is the business at using resources to make profit?

*Key ratios:*

- Return on capital employed (ROCE)
- Return on Equity
- Gross profit margin
- Operating profit margin



# Profitability Ratios

## RETURN ON CAPITAL EMPLOYED

Net Profit for the year	X 100
Equity + Liabilities	

## RETURN ON EQUITY

Net Profit for the year	X 100
Capital	

Gross Profit

Sales Revenue

X 100

Gross Profit

Cost of Sales

X 100



# Ratio Analysis and Efficiency

- **Efficient** management of assets and liabilities
- Measuring **productivity** of assets by comparing asset values to sales revenue
- Measuring stock turnover/receivables collection/payables payment



# Efficiency Ratios

Sales	Sales
Net Assets	Fixed Assets

$$\frac{(\text{Opening Stock} + \text{Closing Stock}) / 2}{(\text{Cost of Sales}) / 365}$$

Average trade receivables	X 365
Credit Sales revenue	

Average trade payables	X 365
Cost of Sales	



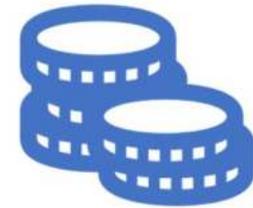
# Today's Agenda



Ratios



Management Accounts



Sources of Finance



# Liquidity Ratios

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# Ratio Analysis and Liquidity

- A difficult concept
- Difficult to interpret
- Resources available to maintain working capital (current assets – current liabilities)
- Current ratio and acid test ratio
- Current assets to current liabilities and current assets less stock to current liabilities
- Need industry context (supermarkets run on lower liquidity ratios than aircraft manufacturers)
- Examine components of working capital



# Liquidity Ratios

- Liquidity refers to the availability of cash in the near future after taking account of immediate financial commitments
- Key ratios:

<b>CURRENT RATIO</b>		
CURRENT ASSETS		
CURRENT LIABILITIES		

<b>ACID TEST</b>		
CURRENT ASSETS - INVENTORIES		
CURRENT LIABILITIES		



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<b>NAXXAR RETAIL COMPANY LIMITED</b>		
<b>INCOME STATEMENT</b>		
<b>FOR THE YEAR ENDED 31 DECEMBER 2022</b>		
		€
<b>REVENUE</b>		
Sales - Clothing & Accessories		55,400
Sales - Shoes		26,645
<b>TOTAL REVENUE</b>		<b>82,045</b>
<b><u>COST OF SALES</u></b>		
Opening Stock		24,331
Purchases - Foreign		14,420
Purchases - Local		16,551
Closing Stock		- 19,445
<b><u>COST OF GOODS SOLD</u></b>		<b>35,857</b>
<b><u>GROSS PROFIT</u></b>		<b>46,188</b>
<b><u>EXPENSES</u></b>		
Accounting Fees		2,800
Bank Charges		921
Insurance		305
Legal Fees		5,500
Motor Expenses		1,960
Rent		1,560
Salaries and Wages		4,850
Sundry Expenses		806
Water & Electricity expenses		516
<b><u>TOTAL EXPENSES</u></b>		<b>19,218</b>
<b><u>NET PROFIT / (LOSS)</u></b>		<b>26,970</b>



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<b>NAXXAR RETAIL COMPANY LIMITED</b>		
<b>BALANCE SHEET</b>		
<b>AS AT 31 DECEMBER 2022</b>		
		<b>€</b>
<b><u>FIXED ASSETS</u></b>		
Buildings		58,000
Shop Fixtures		3,960
Motor Vans		3,500
<b><u>TOTAL FIXED ASSETS</u></b>		<b>65,460</b>
<b><u>INVESTMENTS</u></b>		
Investments in Shares of Other Companies		15,000
<b><u>CURRENT ASSETS</u></b>		
Stock at End of Year		19,445
Debtors		11,810
Prepayments		1,200
Bank Balances		1,134
<b><u>TOTAL CURRENT ASSETS</u></b>		<b>33,589</b>
<b><u>TOTAL ASSETS</u></b>		<b>114,049</b>
REPRESENTED BY:		
<b><u>EQUITY</u></b>		
Share Capital		20,000
Retained Earnings		35,521
Profit for the Year		26,972
<b><u>TOTAL EQUITY</u></b>		<b>82,493</b>
<b><u>LONG-TERM LIABILITIES</u></b>		
Bank Loans (over 12 months repayments)		26,000
<b><u>CURRENT LIABILITIES</u></b>		
Creditors		3,250
Accruals		2,306
<b><u>TOTAL CURRENT LIABILITIES</u></b>		<b>5,556</b>
<b><u>TOTAL EQUITY &amp; LIABILITIES</u></b>		<b>114,049</b>



# Current Ratio

<b>CURRENT RATIO</b>
<b>CURRENT ASSETS</b>
<b>CURRENT LIABILITIES</b>

<b>33,589</b>
<b>5,556</b>

**6 : 1**

<b>CURRENT ASSETS</b>	
Stock at End of Year	19,445
Debtors	11,810
Prepayments	1,200
Bank Balances	1,134
<b>TOTAL CURRENT ASSETS</b>	<b>33,589</b>

<b>CURRENT LIABILITIES</b>	
Creditors	3,250
Accruals	2,306
<b>TOTAL CURRENT LIABILITIES</b>	<b>5,556</b>



# Acid Test

ACID TEST		
CURRENT ASSETS - INVENTORIES		
CURRENT LIABILITIES		

33,589 - 19,445
5,556

2.5 : 1

<u>CURRENT ASSETS</u>	
Stock at End of Year	19,445
Debtors	11,810
Prepayments	1,200
Bank Balances	1,134
<b>TOTAL CURRENT ASSETS</b>	<b>33,589</b>

<u>CURRENT LIABILITIES</u>	
Creditors	3,250
Accruals	2,306
<b>TOTAL CURRENT LIABILITIES</b>	<b>5,556</b>



# Financial Gearing Ratios

- Financial gearing occurs where a business is financed to some extent by borrowing (i.e. not financed by the owners as equity)
- *Key ratios:*
  - Gearing ratio
  - Interest cover ratio



# Gearing Ratio

Non-Current Liabilities

Share Capital + Reserves + Non-Current Liabilities

X 100

## EQUITY

Share Capital	20,000
Retained Earnings	35,521
Profit for the Year	26,972
<b>TOTAL EQUITY</b>	<b>82,493</b>

## LONG-TERM LIABILITIES

Bank Loans (over 12 months repayments)	26,000
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# Gearing Ratio

Non-Current Liabilities	X 100
Share Capital + Reserves + Non-Current Liabilities	

26,000	X 100
$20,000 + (35,521 + 26,972) + 26,000$	

23.96 %



# Interest Cover Ratio

- Measures the amount of operating profit available to cover interest payable

Operating Profit before Interest	26,970 + 921	30.28
Interest Payable	921	

- Assuming that Interest Payable was €921 (shown as Bank Charges)



# Ratio Analysis and Investment

- Investment ratios indicate the health of the business from the point of view of the investor
- This involves a consideration of:
  - the way in which the business is financed
  - its ability to pay interest charges, and dividends
  - the relationship between returns to shareholders and the market price of the company shares
  - ability to pay interest and dividends
  - proportion of debt to equity



# Investment Ratios

- Designed to help shareholders assess the returns on their investment
- Key ratios:
  - Dividend per share
  - Earning per share (EPS)
  - Price to earning ratio (P/E)



# Dividend Per Share

- Measures the dividend paid per share in issue

$$\frac{\text{Total Dividend Paid}}{\text{Number of shares in issue}}$$

- Assuming €5,000 was paid out as Dividends

$$\frac{5,000}{20,000}$$

€ 0.25 per share



# Earnings Per Share

- Relates the earnings generated by the business (available to shareholders) during a period, to the number of shares in issue

Profit after tax

Number of shares in issue

26,970

20,000

€ 1.35 per share



# Price to Earnings Ratio

- Relates the market value of a share to the earnings per share

$$\frac{\text{Market value per share}}{\text{Earnings per Share}}$$

- If the market value of Company is € 2.85

2.85

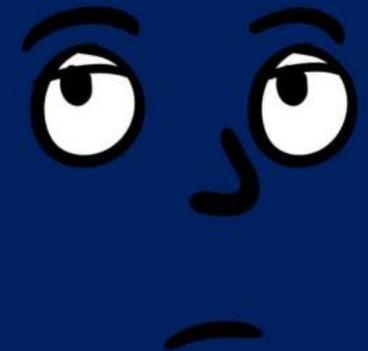
1.35

2.11 : 1



# Limitations of Interpretation Techniques

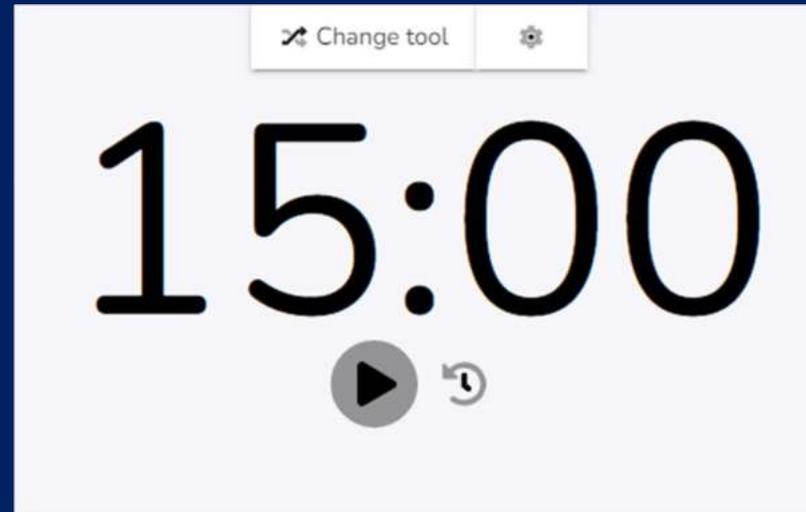
- Ratios and other calculations need to be compared to a standard measure
- Terms used to calculate ratios must be clearly defined, as there is considerable variation in their calculation
- Inflation may have a considerable distorting effect on the comparison of ratios over time or between industries
- Accounting policy choices by different companies can affect comparability
- Historical results may not be an accurate guide to the future



# Limitations of Ratio Analysis

- Quality of financial statements (errors, historic cost).
- Based on figures at the date of the statement of financial position.
- Do not take into account the effects of inflation.
- Ratios are only useful if you can make comparisons – e.g. between companies, year on year.
- Different accounting policies may be applied in different years or by different companies, making comparisons difficult.





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# Group Work



# TESCO

Serving shoppers  
a little better every day.

Annual Report and Financial Statements 2017



**Tesco at a glance**

As a leading retailer, with 460,000 colleagues, we serve millions of customers every week, in our stores and online.

<b>£49.9bn</b> <sup>Δ (a)</sup>	<b>£55.9bn</b> <sup>(a)</sup>	<b>£1,280m</b> <sup>Δ (a)</sup>	<b>£1,017m</b> <sup>(a)</sup>
<small>Group sales (exc. VAT, exc. fuel) (2015/16: £47.9bn)</small>	<small>Statutory revenue (exc. VAT, inc. fuel) (2015/16: £53.9bn)</small>	<small>Group operating profit before exceptional items (2015/16: £385m)</small>	<small>Operating profit (2015/16: £1,072m)</small>
<b>£145m</b> <sup>(a)</sup>	<b>7.90p</b> <sup>Δ (a)</sup>	<b>0.81p</b> <sup>(a)</sup>	<b>£(3.7)bn</b> <sup>Δ (a)</sup>
<small>Statutory profit before tax (2015/16: £202m)</small>	<small>Diluted earnings per share before exceptional items and net pension finance costs (2015/16: 5.61p)</small>	<small>Statutory diluted EPS (2015/16: 3.22p)</small>	<small>Net debt (2015/16: £15.1bn)</small>
<b>6,809</b> <sup>(a),(c)</sup>	<b>79m</b> <sup>(a)</sup>	<b>23m</b>	<b>460,000</b> <sup>(a)</sup>
<small>Shops around the world (2015/16: 6,733)</small>	<small>Shopping trips per week (2015/16: 78m)</small>	<small>Meals donated through our food surplus redistribution work and Neighbourhood Food Collection</small>	<small>Colleagues at year end (2015/16: 471,000)</small>

<sup>(a)</sup> Reported on a continuing operations basis.  
<sup>(b)</sup> Excludes the net debt of Tesco Bank.  
<sup>(c)</sup> Includes franchise stores.

**Δ Alternative Performance Measures**  
 Measures with this symbol Δ are defined in the Alternative Performance Measures section of the Annual Report on pages 170 to 172.

## Tesco at a glance

As a leading retailer, with 460,000 colleagues, we serve millions of customers every week, in our stores and online.

£49.9bn <sup>Δ (a)</sup>

Group sales  
(exc. VAT, exc. fuel)  
(2015/16: £47.9bn)

£55.9bn <sup>(a)</sup>

Statutory revenue  
(exc. VAT, inc. fuel)  
(2015/16: £53.9bn)

£1,280m <sup>Δ (a)</sup>

Group operating profit  
before exceptional items  
(2015/16: £985m)

£1,017m <sup>(a)</sup>

Operating profit  
(2015/16: £1,072m)

£145m <sup>(a)</sup>

Statutory profit before tax  
(2015/16: £202m)

7.90p <sup>Δ (a)</sup>

Diluted earnings per share  
before exceptional items  
and net pension finance costs  
(2015/16: 5.61p)

0.81p <sup>(a)</sup>

Statutory diluted EPS  
(2015/16: 3.22p)

£(3.7)bn <sup>Δ (b)</sup>

Net debt  
(2015/16: £(5.1)bn)

6,809 <sup>(a),(c)</sup>

Shops around the world  
(2015/16: 6,733)

79m <sup>(a)</sup>

Shopping trips per week  
(2015/16: 78m)

23m

Meals donated through our food  
surplus redistribution work and  
Neighbourhood Food Collection

460,000 <sup>(a)</sup>

Colleagues at year end  
(2015/16: 471,000)

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### Δ Alternative Performance Measures

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# Groups

1	2	3	4	5
ANIL	VISHAL	DHEERAJ	ABHILASH	AJAY
ANKIT	JASPREET	GURPREET	MANEESH	LAVISH
JASKARAN	RAJAN	KARANDEEP	RAHUL	LOVISH
PRIYANKA	RAVINDER	SAHIL	ROMI	ROHAN

# TESCO 2017 Ratios

- Calculate and comment on:
  - PROFITABILITY
    - the return on equity (ROI)
    - the return on capital employed (ROCE)
    - gross profit margin (GPM)
  - LIQUIDITY
    - The current ratio
    - The acid test ratio
  - FINANCING
    - Gearing ratio
    - Interest cover ratio

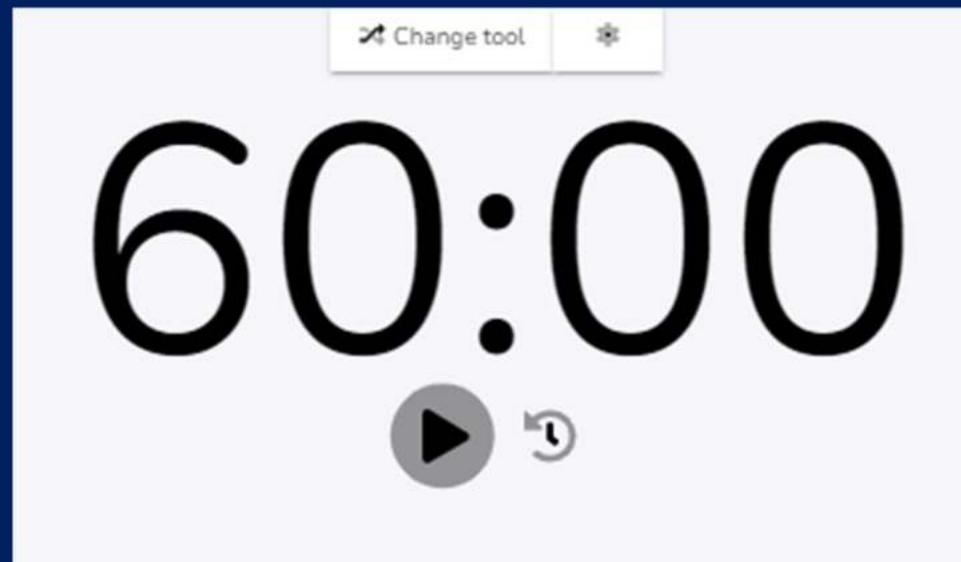


# TESCO 2017 Ratios

- Calculate and comment on:
  - EFFICIENCY
    - Inventories turnover period
    - Trade receivables days period
    - Trade payables payment period
    - Non-current asset turnover
  - INVESTMENT
    - Dividend cover
    - Earnings per share
    - Price earnings ratio



# Group Work



# TESCO 2017 Ratios - Solutions

- Return on equity (ROI)

Net Profit for the year		X 100
Capital		
-	54	X 100
	6,414	

- 0.84 %



# TESCO 2017 Ratios - Solutions

- Return on capital employed (ROCE)

Operating Profit for the year	X 100
Equity + Non-Current Liabilities	

1,017	X 100
6,414 + 20,034	

3.84 %



# TESCO 2017 Ratios - Solutions

- Gross profit margin (GPM)

Gross Profit	X 100
Sales Revenue	
2,902	X 100
55,917	

5.19 %



# TESCO 2017 Ratios - Solutions

- Current Ratio

CURRENT ASSETS
CURRENT LIABILITIES

15,073

19,234

0.79 : 1



# TESCO 2017 Ratios - Solutions

- Quick Ratio (Acid test)

CURRENT ASSETS - INVENTORIES

CURRENT LIABILITIES

15,073 - 2,301

19,234

0.68 : 1



# TESCO 2017 Ratios - Solutions

- Gearing ratio

Non-Current Liabilities	X 100
Share Capital + Reserves + Non-Current Liabilities	

20,034	X 100
6414 + 20034	

**75.75 %**



# TESCO 2017 Ratios - Solutions

- Interest cover

Operating Profit before Interest

Interest Payable

1,017

874

1.16 times



# TESCO 2017 Ratios - Solutions

- Inventory turnover period 15.84 days
- Trade receivables days 9.63 days
- Trade payables days 61.10 days
- Non-current asset turnover 1.84 times



# TESCO 2017 Ratios - Solutions

• Dividend cover =  $\frac{(\pounds 54\text{m})}{\pounds 0} = \text{N/A}$

• Earnings per share =  $\frac{-\pounds 54\text{m}}{8,174,932,553} = -0.66\text{p}$

• Price earnings ratio =  $\frac{188.99 \text{ p}}{-0.66\text{p}} = -286.35$



60:00



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# Management Accounts



# Management accounts

- Management accounting analyses and provides information to the internal management for the purposes of planning, controlling and decision making
- Not legally required
- Focused on the present and forecasts for the future
- Have an informal format and show only the required information
- Are used only inside the business
- Can be done daily, weekly, monthly
- Include non-financial information



# Users of managerial accounting

The managerial accounting provides essential data used to run the business  
It produces the information for the internal users:

- Board of directors – in fact it is an almost must for monthly board meetings
- Chief executive officer (CEO)
- Chief financial officer (CFO)
- Senior Management Team
- Business unit managers
- Plant managers
- Store managers
- Line supervisors



# Outputs – information required by managers

The outputs of the management accounting provide the management with all necessary data to help them determine the status of their business

- achieving the set targets
- a loss or a profit



# Outputs – information required by managers

The information that should always be on the managers' Radar

- Sales volumes
- Margins
- Fixed expenses
- Overdue accounts receivable
- Slow-moving inventory items



# Outputs – information required by managers

The outputs that managers need

- Information on the cost of products and services
- Budgets
- Performance reports
- Other information



# Outputs – information required by managers

Tools used by managers when making decisions regarding the future of the business

- Ratio analysis
- Budgets (financial plans)
- Forecasts (of costs and revenues)



# Vertical Analysis

- Replace numbers with percentages
  - P&L - % of sales
  - Balance sheet - % of net assets
- Certain relationships between costs and revenue should be explicable
  - Gross profit %
  - Net profit %
  - Overhead cost categories as % of sales
- Indicates important balance sheet items
- Allows comparison between companies of different sizes/ companies reporting in different currencies
- A focus for further investigation



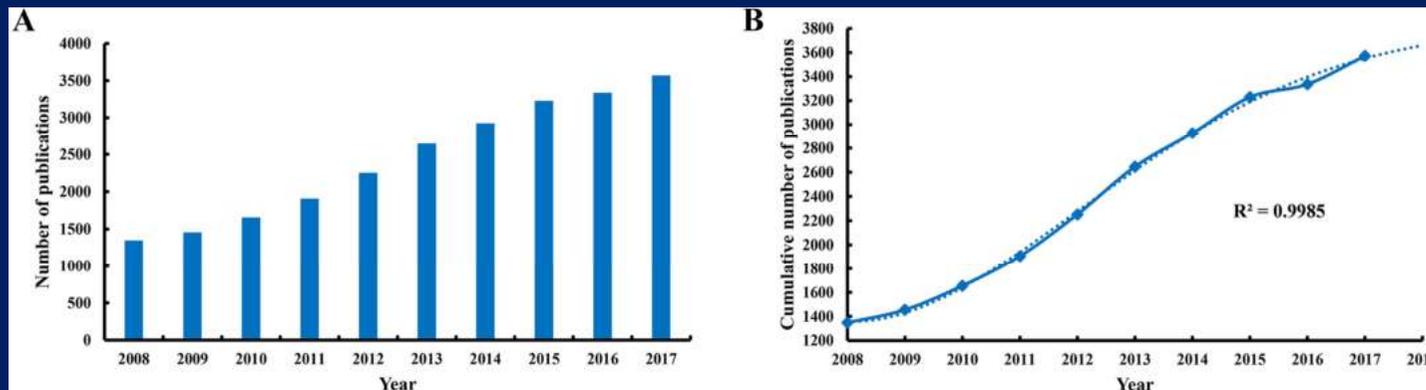
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	<b>€</b>	<b>%</b>
<b><u>REVENUE</u></b>		
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Sales - Shoes	26,645	<b>32%</b>
<b>TOTAL REVENUE</b>	<b>82,045</b>	<b>100%</b>
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Opening Stock	24,330	
Purchases - Foreign	14,420	
Purchases - Local	16,550	
Closing Stock	- 19,445	
<b><u>COST OF GOODS SOLD</u></b>	<b>35,855</b>	<b>44%</b>
<b><u>GROSS PROFIT</u></b>	<b>46,190</b>	<b>56%</b>
<b><u>EXPENSES</u></b>		
Accounting Fees	2,800	<b>3%</b>
Bank Charges	921	<b>1%</b>
Insurance	305	<b>0%</b>
Legal Fees	5,500	<b>7%</b>
Motor Expenses	1,960	<b>2%</b>
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Salaries and Wages	4,850	<b>6%</b>
Sundry Expenses	806	<b>1%</b>
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<b>TOTAL EXPENSES</b>	<b>19,218</b>	<b>23%</b>
<b><u>NET PROFIT / (LOSS)</u></b>	<b>26,972</b>	<b>33%</b>



# Horizontal Analysis

- % changes over time
- Indicates key changes (used by auditors)
- Five year summaries in annual reports



# The Story behind the Numbers

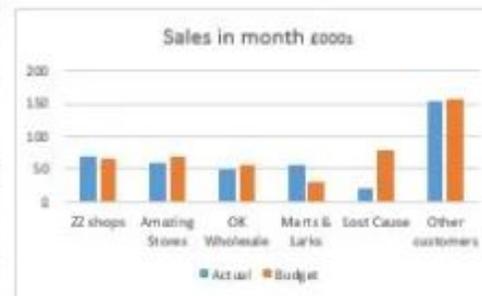
- Impossible to read numerical tabulations with any accuracy
- Concentrate on main numbers (profits – net assets – debt- net cash flow movement)
- Major asset movements
- Major changes in group structure
- Major changes in financing
- Prospects for future growth
- Additional information outside accounting statements
- Compare interest paid to loans
- Changes in management



# Samples of Management Accounts

	Month			Year to date			Last year
	Actual	Budget	Variance	Actual	Budget	Variance	YTD
	€000s	€000s	€000s	€000s	€000s	€000s	€000s
<b>Sales</b>							
Retailers	310	321	(11)	3,021	3,225	(204)	2,850
Wholesalers	105	136	(31)	1,320	1,375	(55)	1,250
	<b>415</b>	<b>457</b>	<b>(42)</b>	<b>4,341</b>	<b>4,600</b>	<b>(259)</b>	<b>4,100</b>
<b>Gross margin</b>							
Retailers	145	138	7	1,299	1,352	(53)	1,150
Wholesalers	42	59	(17)	630	591	39	520
	<b>187</b>	<b>197</b>	<b>(10)</b>	<b>1,929</b>	<b>1,943</b>	<b>(14)</b>	<b>1,670</b>
<b>Gross margin %</b>							
Retailers	47%	43%	4%	43%	42%	1%	40%
Wholesalers	40%	43%	(3)%	48%	43%	5%	42%
<b>Distribution costs</b>	(12)	(14)	2	(152)	(140)	(12)	(130)
<b>Contribution</b>	175	183	(8)	1,777	1,803	(26)	1,540
<b>Overheads</b>							
Production	(30)	(33)	3	(102)	(99)	(3)	(95)
Sales & marketing	(11)	(5)	(6)	(102)	(114)	12	(110)
Administration	(28)	(23)	(5)	(126)	(104)	(22)	(110)
Total overheads	(69)	(61)	(8)	(330)	(317)	(13)	(315)
<b>Operating profit/(loss)</b>	<b>106</b>	<b>122</b>	<b>(16)</b>	<b>1,448</b>	<b>1,486</b>	<b>(39)</b>	<b>1,225</b>
Interest	(16.0)	(13.8)	(2.2)	(25.5)	(13.8)	(11.7)	-
<b>Profit/(loss) before tax</b>	<b>90</b>	<b>108</b>	<b>(18)</b>	<b>1,422</b>	<b>1,472</b>	<b>(50)</b>	<b>1,225</b>
Taxation	(18)	(21.6)	3.6	(284.4)	(294.5)	10.1	(245.0)
<b>Profit/(loss) after tax</b>	<b>72.0</b>	<b>86.6</b>	<b>(14.6)</b>	<b>1,137.6</b>	<b>1,177.8</b>	<b>(40.2)</b>	<b>980.0</b>

AUGUST 2016







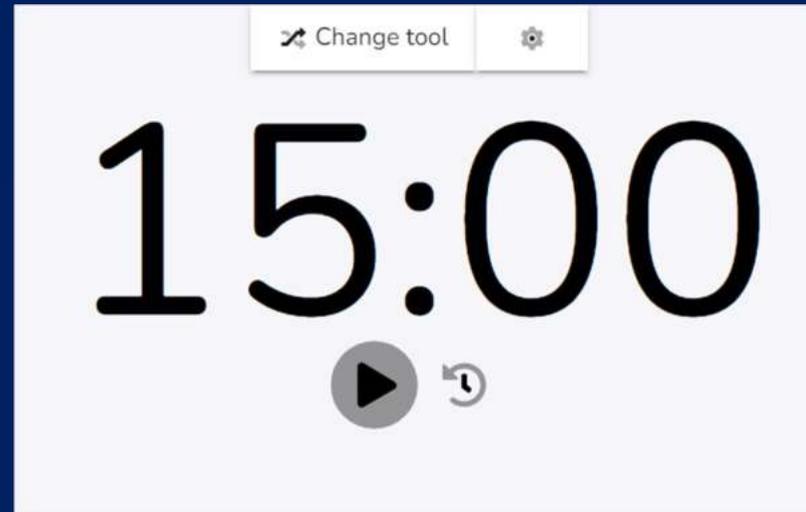
Introduction to

**Management**

Accounting

EXPLAINED IN  
45 MINS



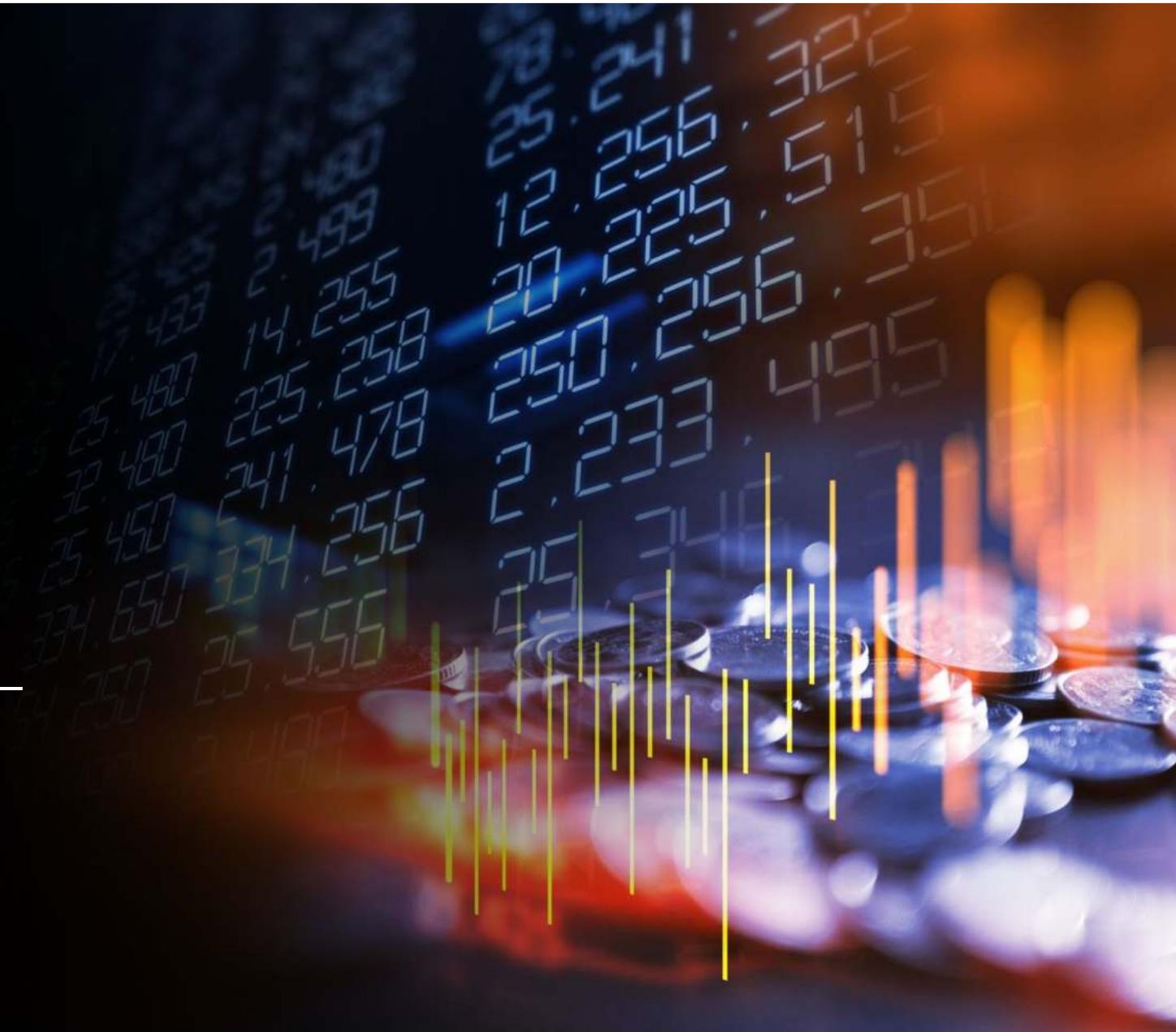


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# Source of Finance

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# Sources of Finance

- Short-Term Finance
- Long-Term Finance
- Outside Investment at start up phase
- Outside Investment at ongoing phase
  
- Importance of having adequate finances
- Based on size, type, development phase, scope and purpose of business entity



# Short-Term Sources of Finance

- Short-term purposes
- NEVER use short-term finance to finance long-term activity (hard core)
- Day-to-day operations
- Linked to seasonal needs of the business
- Internal Sources
  - Stricter credit controls (cash conversion cycle)
  - Extending payment terms
  - Dispose of Inventory
  - Using Retained Earnings



# Short Term Finance

- Overdraft facility
- Usually immediate solution to short-term difficulties
- Advantages
  - Flexible
  - Arranged fairly quickly with banks
  - Collateral may be minimal
- Disadvantages
  - Repayable on demand
  - Higher interest rates
  - Commitment fees payable annually
  - Secured against a source of income



# Short-Term Finance

- Short-term Loan
- Fixed interest rates and repayment
- Established for the whole period of time
- Lower interest rates vs. overdraft
- Disadvantages
  - Interest paid on full amount
  - Restrictions on operations and Board decisions
  - Security
  - Longer times to negotiate



# Short-term Finance

- Trade Credit
  - Interest Free
  - No early repayment discounts
  - Reputation – good credit lines
- Leasing
  - Monthly payments vs. outright purchase
  - No large initial capital
  - Costlier than straight purchase
  - Has to be paid till end of agreement, even if not required





**Undergraduate Diploma in  
Business Administration**