

Financial Statement Analysis



Accounting fundamentals

Introduction

Uses of accounting information

Examples

- Profitability analysis
- Cash flow analysis
- Forecasting
- Corporate valuation
- Credit analysis
- Deal structuring (M&A, LBO, divestitures)
- Company profiles

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Financial analysis

- Investors / analysts look from the outside in
- Analysis often based on simplifications or estimates
- Analyze the past in order to:
 - Understand the business
 - Form a view of the future
- Dissect the accounts to see:
 - What made an account go up or down?
 - What were the flows into and out of an account?
 - What drives the level of the account?

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Company accounts

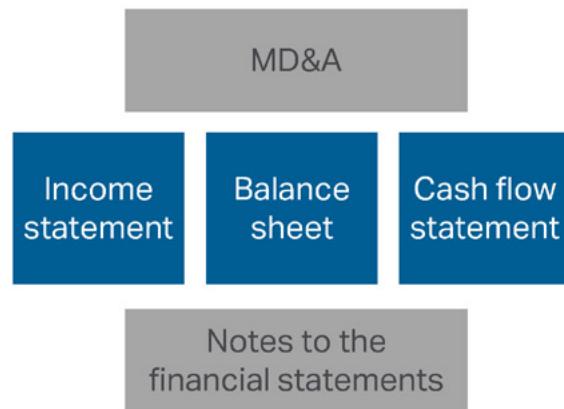
- Company accounts are the raw material of financial analysis
- US
 - 10K full year
 - 10Q quarterly
- Non-US
 - Annual report full year
 - Interims every 6 months

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Annual report

Key contents



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The financial statements

Financial statements

Balance sheet



- Assets, liabilities and equity
- A snapshot at the period end

Income statement



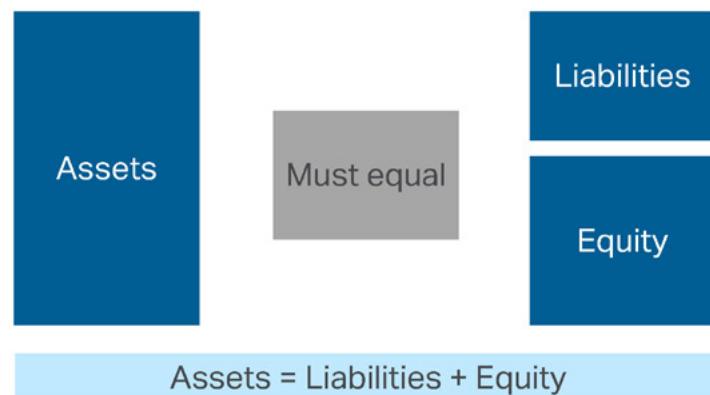
- Income, expenses and profit
- For the entire period

Cash flow statement



- Cash inflows and outflows
- For the entire period

Financial statements: The balance sheet



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Balance sheet assets

An example

Current assets:		
Cash and cash equivalents	\$	346,529
Short-term investments		—
Accounts receivable—trade, net		599,073
Inventories		750,970
Deferred income taxes		—
Prepaid expenses and other		152,026
Total current assets		1,848,598
Property, plant and equipment, net		2,240,460
Goodwill		684,252
Other intangibles		379,305
Other assets		155,306
Deferred income tax		36,390
Total assets	\$	5,344,371

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Balance sheet liabilities

An example

Current liabilities	
Accounts payable	\$ 474,266
Accrued liabilities	856,967
Accrued income taxes	23,243
Short-term debt	363,513
Current portion of long-term debt	499,923
Total current liabilities	2,217,912
Long-term debt	1,557,091
Other long-term liabilities	468,718
Deferred income taxes	53,188
Total liabilities	4,296,909

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Balance sheet shareholders' equity

An example

Stockholders' equity	
Preferred stock	—
Common stock	299,281
Class B common stock	60,620
Additional paid-in capital	783,877
Retained earnings	5,897,603
Treasury—common stock shares, at cost	(5,672,359)
Accumulated other comprehensive loss	(371,025)
Stockholders' equity	997,997
Non-controlling interests in subsidiaries	49,465
Total stockholders' equity	1,047,462

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Transaction examples

Balance sheet

Purchasing equipment (for cash)



$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

Borrowing



$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

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Income statement

An example

Net sales	\$ 7,386,626
Costs and expenses:	
Cost of sales	4,003,951
Selling, marketing and administrative	1,969,308
Goodwill and other intangible asset impairment changes	280,802
Business realignment charges	94,806
Total costs and expenses	6,348,867
Operating profit	1,037,759
Interest expense, net	105,773
Other (income) expense, net	30,139
Income before income taxes	901,847
Provision for income taxes	388,896
Net income	\$ 512,951

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Transaction examples

Balance Sheet and Income Statement

Revenue (received in cash)



Expense (not paid yet)



Assets = Liabilities + Equity

Assets = Liabilities + Equity

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Cash flow statement

An example

Operating Activities	
Net income	\$ 512,951
Adjustments to reconcile net earnings to net cash provided by operating activities	
Depreciation and amortization	244,928
Stock-based compensation expense	51,533
Excess tax benefits from stock-based compensation	(24,839)
Deferred income taxes	(38,537)
Non-cash business realignment and impairment charges	283,469
Contributions to pension and other benefit plans	(53,273)
Loss on early extinguishment of debt	28,326
Write-down of equity investments	39,489
Changes in assets and liabilities, net of effects from business acquisitions and divestitures:	
Accounts receivable—trade, net	(24,440)
Inventories	52,049
Accounts payable and accrued liabilities	(1,017)
Other assets and liabilities	143,817
Net cash provided by operating activities	1,214,456

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Cash flow statement

An example

Investing Activities	
Capital expenditure	(329,707)
Capitalized software additions	(27,103)
Proceeds from sales of property, plant and equipment	1,205
Proceeds from sale of business	32,408
Equity investments in tax credit qualifying partnerships	(30,720)
Business acquisitions, net of cash and cash equivalents acquired	(218,654)
Sale (purchase) of short-term investments	95,316
Net cash used in investing activities	(477,255)
Financing Activities	
Net increase in short-term debt	10,720
Long-term borrowings	599,031
Repayment of long-term debt	(355,446)
Cash dividends paid	(476,132)
Exercise of stock options	72,719
Excess tax benefits from stock-based compensation	24,839
Payment of contingent consideration	(10,000)
Purchase of non-controlling interest	(38,270)
Repurchase of common stock	(582,623)
Net cash used in financing activities	(755,162)
Effect of exchange rate changes on cash and cash equivalents	(10,364)
(Decrease) increase in cash and cash equivalents	(28,325)

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Cash flow and balance sheet integration

- Cash from the balance sheet:

Assets	
Current assets:	
Cash and cash equivalents	\$ 346,529

- Cash in the cash flow statement:

(Decrease) increase in cash and cash equivalents	(28,325)
Cash and cash equivalents, beginning of period	374,854
Cash and cash equivalents, end of period	\$ 346,529

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Financial statements

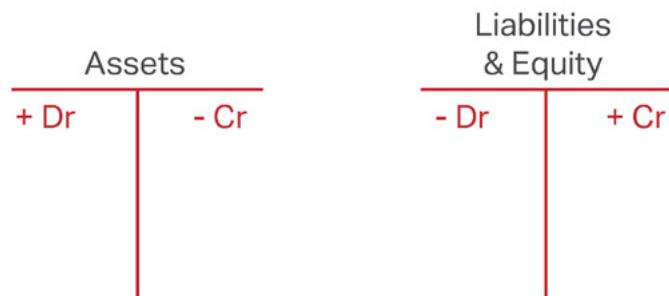
Key links



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Debits and credits



Each transaction has both a debit and a credit

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Accounting basics drill questions

Question 1

Which of the following statements is correct?

- a. The income statement provides a snapshot at one moment in time
- b. The cash flow statement provides a snapshot at one moment in time
- c. The cash flow statement shows the cash flows for the entire accounting period
- d. The balance sheet shows the earnings for the entire accounting period

Question 2

What is the fundamental accounting equation?

- a. Assets = liabilities
- b. Increases in equity must equal increases in cash
- c. Equity = liabilities + assets
- d. Liabilities + equity = assets

Question 3

The income statement measures changes in:

- a. Cash
- b. Retained earnings
- c. The number of clients a company has
- d. None of the above

Question 4

Overleaf is the balance sheet of Chelsea at the beginning of the month.

During the month Chelsea has entered into the following transactions:

- Bought inventory for 340 and paid in cash
- Took out a bank loan amounting to 2,000. It is to be repaid in 5 years' time
- Bought some equipment for 1,260 cash
- Received cash of 290 from customers and paid suppliers 225 in cash
- Paid taxes of 68.4

Show how these transactions would be recorded in the grid provided. When you have recorded each transaction, redraft the new balance sheet.

Balance sheet	Year 1	Redrafted BS
Cash	552.0	
Accounts receivable	480.0	
Inventories	504.0	
Total current assets	1,536.0	
Net PP&E	3,000.0	
Total assets	4,536.0	
Accounts payable	432.0	
Taxes payable	74.4	
Total current liabilities	506.4	
Long-term debt	0.0	
Total liabilities	506.4	
Shareholders' equity	4,029.6	
Total liabilities and equity	4,536.0	

Transaction	Recording of transaction
Bought inventory for 340 and paid in cash	
Took out a bank loan amounting to 2,000. It is to be repaid in 5 years' time	
Bought some equipment for 1,260 cash	
Received cash of 290 from customers and paid suppliers 225 in cash	
Paid taxes of 68.4	

Question 5

Chelsea also had the following transactions which you should record in the grid provided and then redraft the balance sheet accordingly.

- Inventory which cost 326 was sold for 780 on credit
- Marketing expenses of 265 were paid for in cash
- Interest on the bank loan for the period was 30 paid for in cash
- Wages and salaries (paid in cash) amounted to 90
- Tax expense for the period (still unpaid) was 20

Transaction	Recording of transaction
Inventory which cost 326 was sold for 780 on credit	
Marketing expenses of 265 were paid for in cash	
Interest on the bank loan for the period was 30 paid for in cash	
Wages and salaries (paid in cash) amounted to 90	
Tax expense for the period (still unpaid) was 20	

Of the shareholders' equity given in the balance sheet, 1,000 is for capital and the remainder is retained earnings.

Question 6

Using the information in the previous 2 questions, build the income statement for the period. Make sure that your answer reconciles to the earnings number in the balance sheet. Use the following template to help with your answer.

Chelsea's income statement for the period	
Sales	
Operating costs	
Operating profit	
Interest expense	
Profit before tax	
Tax expense	
Net income / profit after tax	
Beginning retained earnings	
Net income for the period	
Ending retained earnings	

Question 7

Using the information in questions 4 and 5, build the cash flow statement. Make sure that your answer reconciles to the cash number in the balance sheet. Use the following template to help with your answer.

Chelsea's cash flow statement for the period	
Cash received from customers	
Cash paid to suppliers	
Cash paid to employees	
Cash paid to bank for interest	
Cash paid for taxes	
Equipment purchased	
Loan taken out	
Net cash flow	
Beginning cash	
Net cash flow	
Ending cash	

Question 8

James Peterson set up a business selling carpets and made the following transactions in the period. Show how each of these transactions will affect assets, liabilities and equity. Also, build the income statement and balance sheet. Prior to setting up the business, there were zero assets, liabilities and equity. Use the templates below to produce your answer.

Transaction	Recording of transaction
He invested 100,000 in the equity of the new company	
He rented a shop for 10,000 per year	
He purchased 50,000 of carpet inventory at the start of the year with cash	

He took out a bank loan of 50,000 at the beginning of the year	
The bank charged interest at 5% per year on the bank loan	
He spent 12,000 on equipment for the shop in cash	
James made 200,000 in cash sales costing 40,000	
James paid utility bills of 5,000 in cash	
James paid himself a salary of 50,000 in cash	
Assume no depreciation	
The tax rate is 30% of profits before tax	

Carpet Cavern: Income statement

Sales	
Cost of goods sold	
Gross profit	
Selling, general and administrative	
Operating profit	
Interest expense	
Profit before tax	
Tax expense	
Net income / profit after tax	

Carpet Cavern: Balance sheet

Cash	
Inventory	
PP&E	
Total assets	
Debt	
Common stock	
Retained earnings	
Total liabilities and equity	

Question 9

Show how each of the transactions listed below affects assets, liabilities and equity, then produce the resulting income statement and balance sheet. Use the opening balance sheet and the templates provided below to prepare your answer.

Transaction	Recording of transaction
Ben and Jerry bought milk for 150,000 on credit	
Ben and Jerry bought a new machine for 80,000 in cash	
During the year they paid their management 49,000 in cash	
The bank charged 12% on their debt during the year. They paid in cash	
During the year, Ben and Jerry generated 200,890 in revenue. 10,000 was on credit and the rest was in cash	
Ben and Jerry's sales cost them 130,000	
Ben and Jerry's other administrative costs were 10,890 paid in cash	
Ben and Jerry paid dividends of 1,000 in cash	
Assume they recorded and paid 3,851 of tax during the year	
Assume all the other accounts stay the same	

Ben and Jerry's income statement	
Revenues	
Cost of goods sold	
Gross profit	
SG&A	
Operating profit	
Interest expense	
Profit before tax	
Tax expense	
Net income / profit after tax	

Ben and Jerry's beginning balance sheet	
Assets	
Cash & equivalents	35,406
Accounts receivable	12,514
Inventory	12,616
Other current assets	7,527
Total current assets	68,063
Net PP&E	59,600
Investments	1,000
Other non-current assets	2,411
Total assets	131,074
Liabilities & equity	
Accounts payable	16,592
Other current liabilities	448
Total current liabilities	17,040
Long term debt	31,977
Other long term liabilities	3,526
Total liabilities	52,543
Paid in capital	48,761
Retained earnings	29,770
Total equity	78,531
Total liabilities & equity	131,074

Ben and Jerry's ending balance sheet	
Assets	
Cash & equivalents	
Accounts receivable	
Inventory	
Other current assets	
Total current assets	
Net PP&E	
Investments	
Other non-current assets	
Total assets	
Liabilities & equity	
Accounts payable	
Other current liabilities	
Total current liabilities	
Long term debt	
Other long term liabilities	
Total liabilities	
Paid in capital	
Retained earnings	
Total equity	
Total liabilities & equity	

Accounting basics drill answers

Answer 1

c. The cash flow statement shows the cash flows for the entire accounting period

Answer 2

d. Liabilities + equity = assets

Answer 3

b. Retained earnings

Answer 4

Transaction	Recording of transaction
Bought inventory for 340 and paid in cash	+ 340 inventory and - 340 cash
Took out a bank loan amounting to 2,000. It is to be repaid in 5 years' time	+ 2,000 cash and + 2,000 debt
Bought some equipment for 1,260 cash	+ 1,260 equipment and - 1,260 cash
Received cash of 290 from customers and paid suppliers 225 in cash	+ 290 cash and - 290 receivables and - 225 cash and - 225 payables
Paid taxes of 68.4	- 68.4 cash and - 68.4 taxes payable

Balance sheet	Year 1	Transactions	Redrafted balance sheet
Cash	552.0	- 340 + 2,000 - 1,260 + 290 - 225 - 68.4	948.6
Accounts receivable	480.0	- 290.0	190.0
Inventories	504.0	+ 340.0	844.0
Total current assets	1,536.0		1,982.6
Net PP&E assets	3,000.0	+ 1,260.0	4,260
Total assets	4,536.0		6,242.6
Accounts payable	432.0	- 225.0	207.0
Taxes payable	74.4	- 68.4	6.0
Total current liabilities	506.4		213.0
Long-term debt		+ 2,000.0	2,000.0
Shareholders' equity	4,029.6		4,029.6
Total liabilities and equity	4,536.0		6,242.6

Answer 5

Transaction	Recording of transaction
Inventory which cost 326 was sold for 780 on credit	- inventory 326, + receivables 780 and + retained earnings 454
Marketing expenses of 265 were paid for in cash	- cash 265 and - retained earnings 265
Interest on the bank loan for the period was 30 paid for in cash	- cash 30 and - retained earnings 30
Wages and salaries (paid in cash) amounted to 90	- cash 90 and - retained earnings 90
Tax expense for the period (still unpaid) was 20	+ taxes payable 20 and - retained earnings 20

Balance sheet	Year 1	Transactions	Redrafted balance sheet
Cash	948.6	- 265 - 30 - 90	563.6
Accounts receivable	190.0	+ 780.0	970.0
Inventories	844.0	- 326.0	518.0
Total current assets	1,982.6		2,051.6
Net PP&E	4,260.0		4,260.0
Total assets	6,242.6		6,311.6
Accounts payable	207.0		207.0
Taxes payable	6.0	+ 20.0	26.0
Total current liabilities	213.0		233.0
Long-term debt	2,000.0		2,000.0
Share capital	1,000.0		1,000.0
Retained earnings	3,029.6	+ 454 - 265 - 30 - 90 - 20	3,078.6
Shareholders' equity	4,029.6		4,078.6
Total liabilities and equity	6,242.6		6,311.6

Answer 6

Chelsea's income statement for the period	
Sales	780.0
Operating costs (326 + 265 + 90)	681.0
Operating profit	99.0
Interest expense	30.0
Profit before tax	69.0
Tax expense	20.0
Net income / profit after tax	49.0
Beginning retained earnings	3,029.6
Net income for the period	49.0
Ending retained earnings	3,078.6

Answer 7

Chelsea's cash flow statement for the period	
Cash received from customers	290.0
Cash paid to suppliers	(830.0)
(340 + 225 + 265)	
Cash paid to employees	(90.0)
Cash paid to bank for interest	(30.0)
Cash paid for taxes	(68.4)
Equipment purchased	(1,260.0)
Loan taken out	2,000.0
Net cash flow	11.6
Beginning cash	552.0
Net cash flow	11.6
Ending cash	563.6

Answer 8

Transaction:	Recording of transaction:
He invested 100,000 in the equity of the new company	+ Cash and + Common stock
He rented a shop for 10,000 per year	- Cash and - Retained earnings (because expenses have reduced profits)
He purchased 50,000 of carpet inventory at the start of the year with cash	+ Inventory and - Cash
He took out a bank loan of 50,000 at the beginning of the year	+ Cash and + Debt
The bank charged interest at 5% per year on the bank loan	- Cash and - Retained earnings (because expenses have reduced profits)
He spent 12,000 on equipment for the shop in cash	+ PP&E and - Cash
James made 200,000 in cash sales costing 40,000	+ Cash and + Retained earnings (because profits have increased)
James paid utility bills of 5,000 in cash	- Cash and - Retained earnings (because expenses have reduced profits)
James paid himself a salary of 50,000 in cash	- Cash and - Retained earnings (because expenses have reduced profits)
Assume no depreciation	Nothing
The tax rate is 30% of profits before tax	- Cash and - Retained earnings (because expenses have reduced profits)

Carpet Cavern: Income statement	
Sales	200,000
Cost of goods sold	40,000
Gross profit	160,000
S,G and A	65,000
Operating profit	95,000
Interest expense	2,500
Profit before tax	92,500
Tax expense	27,750
Net income / profit after tax	64,750

Carpet Cavern: Balance sheet	
Cash	192,750
Inventory	10,000
PP&E	12,000
Total assets	214,750
Debt	50,000
Common stock	100,000
Retained earnings	64,750
Total liabilities and equity	214,750

Answer 9

Transaction:	Recording of transaction (debits and credits shown for information only):
Ben and Jerry bought milk for 150,000 on credit	+ (Debit) Inventory (A) and + (Credit) Payables (L)
Ben and Jerry bought a new machine for 80,000 in cash	+ (Debit) PP&E (A) and – (Credit) Cash (A)
During the year they paid their management 49,000 in cash	– (Debit) Expenses and Retained earnings (E) and – (Credit) Cash (A)
The bank charged 12% on their debt during the year. They paid in cash	– (Debit) Expenses and Retained earnings (E) and – (Credit) Cash (A)
During the year, Ben and Jerry generated 200,890 in revenue. 10,000 was on credit and the rest was in cash	+ (Debit) Cash (A) and + (Debit) Receivables (A) and + (Credit) Revenue and Retained earnings (E)

Ben and Jerry's sales cost them 130,000	– (Debit) Expenses and Retained earnings (E) and – (Credit) Inventory (A)
Ben and Jerry's other administrative costs were 10,890 paid in cash	– (Debit) Expenses and Retained earnings (E) and – (Credit) Cash (A)
Ben and Jerry paid dividends of 1,000 in cash	– (Debit) Retained earnings (E) (no effect on profits) and – (Credit) Cash (A)
Assume they recorded and paid 3,851 of tax during the year	– (Debit) Expenses and Retained earnings (E) and – (Credit) Cash (A)
Assume all the other accounts stay the same	No changes

Ben and Jerry's income statement	
Revenues	200,890
Cost of goods sold	130,000
Gross profit	70,890
SG&A	59,890
Operating profit	11,000
Interest expense	3,837
Profit before tax	7,163
Tax expense	3,851
Net income / profit after tax	3,312

Ben and Jerry's ending balance sheet	
Assets	
Cash & equivalents	77,718
Accounts receivable	22,514
Inventory	32,616
Other current assets	7,527
Total current assets	140,375
Net PP&E	139,600
Investments	1,000
Other non-current assets	2,411
Total assets	283,386

Liabilities & equity	
Accounts payable	166,592
Other current liabilities	448
Total current liabilities	167,040
Long term debt	31,977
Other long term liabilities	3,526
Total liabilities	202,543
Paid in capital	48,761
Retained earnings	32,082
Total equity	80,843
Total liabilities & equity	283,386

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The income statement

Overview

- Revenue
- Costs
- Profit margins
- Tax expense
- Net income
- EPS

The Income Statement

	Revenue	x
Making / buying your product	Cost of goods sold (COGS)	(x)
	Gross profit	x
Supporting the business	Sales, general and admin. (SG&A)	(x)
	Operating profit	x
Financing the business	Interest / finance cost	(x)
	Profit before taxes	x
Paying the government	Tax cost	(x)
	Profit after tax / Net income	x

Revenue

Revenue recognition

- Revenue from customers (sales)
- Recognized when goods delivered or services performed
- Issues:
 - Deferred revenue
 - Long term contracts
 - Premature revenue recognition
- Gross vs net revenue
 - Sales tax
 - Discounts, rebates, returns etc
- Revenue recognition is important because revenue determines profit

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Revenue vs cash flow

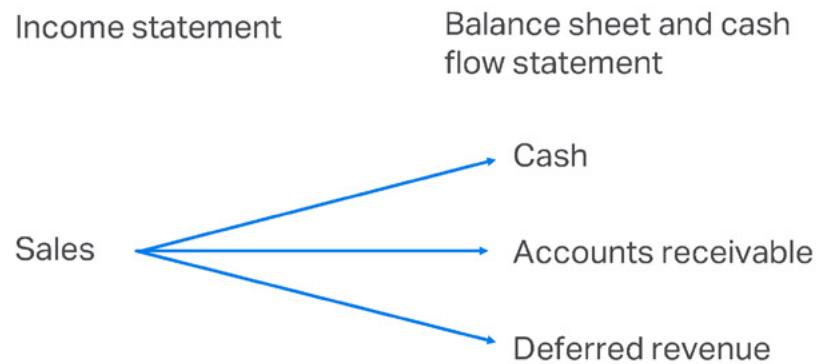
At what point do customers pay?



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Key revenue links



Expenses

The Income Statement

Expenses

	Sales	x
Making / buying your product	Cost of goods sold (COGS)	(x)
	Gross profit	x
Supporting the business	Sales, general and admin. (SG&A)	(x)
	Operating profit	x
Financing the business	Interest / finance cost	(x)
	Profit before taxes	x
Paying the government	Tax cost	(x)
	Profit after tax / net income	x

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Cost of good sold

- Cost of goods sold (COGS or COS)
- Costs of purchase / manufacturing
- Examples:
 - Raw materials
 - Depreciation of factory buildings and equipment
 - Factory labor
 - Factory maintenance costs
 - Factory utilities and other direct costs

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COGS example

- In the first year of operation, Co. A spent \$100 on 10 units of production and sold 8 units at \$12 each.
- What is the Cost of Goods Sold (COGS) for the year?

Co A. Inventory and COGS calculations	
Starting inventory (0 units)	0
Production Costs	
- Materials	50
- Labor	40
- Other production overheads (incl. depreciation)	10
	100
Total Production Costs (10 units @ \$10)	
Cost of Goods Sold (8 units @ \$10)	80
Ending inventory (2 units @ \$10)	20

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Selling, general and administrative (SG&A)

Non-production business costs

- Sales and marketing
- Support services (HR, IT, Finance etc)
- Head office costs (including management compensation, depreciation of non-production related fittings and equipment etc)

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SG&A example

At the start of the year, Co. A buys an accounting software package, which is expected to last for 3 years, for \$12 cash.

Co. A SG&A illustration

Acquired software (start of year)	0
Cash payment for accounting software	12
SG&A income statement expenses for the year	4
Acquired software (end of year)	8

Profit margins

Profit Measurements

Revenue	x
Cost of goods sold (COGS)	(x)
Gross profit	x
Sales, general and admin. (SG&A)	(x)
Operating profit	x
Interest / finance cost	(x)
Profit before taxes	x
Tax cost	(x)
Profit after tax / Net income	x

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Profit Margins: Gross Profit and EBIT

Income Statement	
Sales	100
COGS	40
Gross Profit	60
SG&A	15
Operating Profit (EBIT)	45
Net interest expense	5
Profit before tax	40
Tax	10
Net Income	30

The diagram illustrates the calculation of Gross Margin and EBIT Margin. A blue line connects the Gross Profit value of 60 to the text "Gross Margin 60/100=60%". Another blue line connects the Operating Profit (EBIT) value of 45 to the text "EBIT Margin 45/100=45%".

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Profit Margins: EBITDA

$$\text{EBITDA} = \text{EBIT} + \text{D&A expense}$$

- D&A: Depreciation & Amortization
- D&A expense can be found in the Cash flow statement
- EBITDA reverses D&A out of the EBIT

Income Statement	
Sales	100
COGS	40
Gross Profit	60
SG&A	15
Operating Profit (EBIT)	45
EBITDA (45+8+2)	55

Assuming that:

- COGS includes depreciation of 8
- SG&A includes amortization of 2

EBITDA Margin
 $55/100=55\%$

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Profit Margins: PBT and PAT

Income Statement	
Sales	100
COGS	40
Gross Profit	60
SG&A	15
Operating Profit (EBIT)	45
Net interest expense	5
Profit before tax	40
Tax	10
Net Income	30

PBT Margin
 $40/100=40\%$

Net Margin
 $30/100=30\%$

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Profit Margins

Summary

Profit margin	Comments
Gross margin	<ul style="list-style-type: none">Focuses on production efficiency and pricing power
EBIT margin	<ul style="list-style-type: none">Reflects all operating costsNot influenced by capital structure
EBITDA margin	<ul style="list-style-type: none">A modified EBIT metricIgnores D&A expenses
Profit before tax margin	<ul style="list-style-type: none">Reflects both operating and financial earningsIgnores taxes
Net margin	<ul style="list-style-type: none">Reflects all income and expenses

Normalized profits

- ‘One off’ income or expenses are usually removed from profit calculations to facilitate comparisons and forecasting
- Non-recurring items are not expected to occur in the future
- They must be examined case-by-case
- Examples:
 - Asset Impairments
 - Business restructuring costs
 - Large gains and losses on the sale of businesses or assets
 - Large litigation costs

Normalized EBIT and EBITDA

Remove the impact of non-recurring income and expenses from reported EBIT and EBITDA

Income Statement	Reported	Adjustment	Normalized
Sales	1000		1000
COGS excl. Depreciation	(550)		(550)
Depreciation	(50)		(50)
SG&A	(100)		(100)
Restructuring expenses	(100)	100	0
EBIT	200		300
EBITDA	250		350

Illustration assumes no Amortization expense

Tax expense

Tax expense

- P&L reports the tax expense related to the reported profits before tax
- Tax expense ≠ Tax paid (in cash) during the period
- Effective tax rate (ETR) = Tax expense / Profit before tax
 - Average tax rate on the reported profit
 - Based on accounting data
- Marginal tax rate (MTR) = Tax applicable to the additional unit of profit
 - MTR measurement is based on assumptions
 - Typically: statutory tax rate on corporate income in the relevant jurisdiction(s)

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Effective Tax Rate (ETR)

Income Statement	
Sales	100
COGS	40
Gross Profit	60
SG&A	15
Operating Profit (EBIT)	45
Net interest expense	5
Profit before tax	40
Tax	10
Net Income	30

ETR
 $10/40=25\%$

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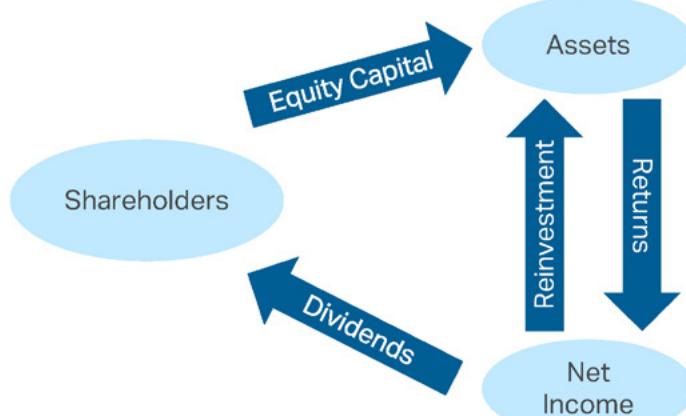
Using the ETR and MTR

Examples

- ETR used for:
 - Forecasting total tax expense in financial models
 - Taxing the EBIT in DCF models
- MTR used for:
 - Normalizing the net income
 - Calculating the cost of debt post-tax

Net income and EPS

Net Income and the Investment Cycle



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Normalized Net Income

Remove the post-tax impact of non-recurring items from reported Net Income

Income Statement	Reported	Adjustment	Normalized
Sales	1000		1000
COGS and SG&A	(700)		(700)
Restructuring expenses	(100)	100	0
EBIT	200		300
Net interest expense	(60)		(60)
Profit before tax	140		240
Tax	(30)	(21) [= 21% x 100]	(51)
Net income	110		189

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Earnings per share (EPS)

- Basic EPS = Net income / Basic Weighted Average number of Shares Outstanding (WASO)
 - Basic WASO uses actual share count
- Diluted EPS = Net income / Diluted WASO
 - Diluted WASO includes the potential impact of dilutive contracts
 - e.g. Options issued by the firm, convertible debt etc
 - Diluted EPS is always lower than basic EPS

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Equity metrics

- | | |
|--------------------|-------------------------------------|
| • Return on equity | = Net income / Book value of equity |
| • Payout ratio | = Dividends / Net income |
| • Dividend yield | = Dividend per share / Share price |
| • Earnings yield | = Diluted EPS / Share price |
| • P/E ratio | = Share price / Diluted EPS |

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Income statement drill questions

Question 1

When would the following companies account for revenues and when do they receive the cash from their customers?

Singapore Airlines	
Wal-Mart	
Intel	

Question 2

Name two accounts in the balance sheet which are directly linked to sales.

Question 3

Southern Smoothies, a drinks company, was under a great deal of pressure to meet its interim earnings target. The CEO Mike Moth decided to incentivize his customers. He told them that if they doubled their order for that month, they would not have to pay for six months, and also that he would help them with storage costs. How could you tell what Mike was doing by looking at the accounts?

Question 4

You are advising a contractor to the government. They were recently awarded a 100m contract to build a health care IT system. The company estimates they will be able to fulfill the contract over two years. How would you account for this sale?

Question 5

Which account on the balance sheet is linked directly to the cost of goods sold?

Question 6

Which types of firms don't have gross profits?

Question 7

What type of firm will have most of their depreciation in cost of goods sold?

Question 8

Calculate EBIT and EBITDA for the following business.

Escalante's income statement	
Revenues	200,890
Cost of goods sold	130,000
Gross profit	70,890
SG&A	59,890
Operating profit	11,000
Interest expense	3,837
Profit before tax	7,163
Tax expense	3,851
Net income / profit after tax	3,312

You find out the following information from a review of the footnotes:

Depreciation and amortization in the CFS is 66,773

Research and development is 2,300

There is a legal claim provision of 31,900 with regard to a failed product in SG&A

The marginal tax rate is 36%

Question 9

Use the following extract from Dillard's 10-K to calculate normalized EBIT. Your boss has told you that the line called "Service Charges, Interest and Other Income" is non-core, not continuing and not controlled.

Consolidated Statements of Operations Dollars in Thousands, Except Per Share Data	
Net Sales	\$ 7,560,191
Service Charges, Interest and Other Income	147,802
	<u>7,707,993</u>
Costs and Expenses:	
Cost of sales	5,014,021
Advertising, selling, administrative and general expenses	2,041,481
Depreciation and amortization	301,864
Rentals	47,538
Interest and debt expense	105,570
Asset impairment and store closing charges	61,734
Total costs and expenses	<u>7,572,208</u>
Income Before Income Taxes	135,785
Income Taxes	14,300
Net Income	\$ 121,485
Earnings Per Common Share:	
Basic	\$ 1.49
Diluted	1.49

Question 10

Use the following extracts from Dell's 10-K to calculate normalized EBIT and EBITDA.

Net revenue	\$ 55,908
Cost of revenue	<u>45,958</u>
Gross margin	<u>9,950</u>
Operating expenses:	
Selling, general, and administrative	5,140
Research, development, and engineering	<u>463</u>
Total operating expenses	<u>5,603</u>
Operating income	4,347
Investment and other income, net	<u>227</u>
Income before income taxes	<u>4,574</u>
Income tax provision	1,002
Net income	<u>\$ 3,572</u>

NOTE 9 — Segment Information

The reconciliation of segment operating results to Dell's consolidated totals is as follows:

	Fiscal Year Ended		
	February 3, 2006	January 28, 2005	January 30, 2004
	(in millions)		
Consolidated operating income:			
Total consolidated segment operating income	\$ 4,789	\$ 4,254	\$ 3,544
Other product charges(a)	(338)	—	—
Selling, general, and administrative charges(b)	(104)	—	—
Total consolidated operating income	\$ 4,347	\$ 4,254	\$ 3,544

- (a) Other product charges include \$307 million for estimated warranty costs of servicing or replacing certain OptiPlex™ systems that include a vendor part that failed to perform to Dell's specifications, as well as additional charges for product rationalizations and workforce realignment.
 (b) Charges relate to workforce realignment expenses, primarily for severance and related costs of \$50 million, cost of operating leases on office space no longer utilized of \$25 million, and a write-off of goodwill of \$29 million.

Cash flows from operating activities:	
Net income	\$ 3,572
Adjustments to reconcile net income to net cash provided by operating activities:	
Depreciation and amortization	393
Tax benefits of employee stock plans	261
Effects of exchange rate changes on monetary assets and liabilities denominated in foreign currencies	70
Other	188
Changes in:	
Operating working capital	(67)
Non-current assets and liabilities	422
Net cash provided by operating activities	<u>4,839</u>

Question 11

Calculate the ETR and the normalized ETR for KenKey Ltd.

KenKey Ltd income statement	
Revenues	143,492.9
Cost of goods sold	92,857.1
Gross profit	50,635.7
SG&A	42,778.6
Operating profit	7,857.1
Interest expense	2,740.7
Profit before tax	5,116.4
Tax expense	2,750.7
Net income / profit after tax	2,365.7

Your review of the footnotes finds that embedded in COGS is a non-recurring charge of 42,988. You also know that the marginal tax rate is 32%.

Question 12

Calculate the cleaned net income for Avenue Inc using the information given below.

Avenue Inc income statement	
Revenues	109,054.6
Cost of goods sold	70,571.4
Gross profit	38,483.1
SG&A	32,511.7
Operating profit	5,971.4
Interest expense	2,082.9
Profit before tax	3,888.5
Tax expense	1,480.0
Profit after tax	2,408.5
Loss from discontinued business	449.5
Net income	1,959.0

You discover the following from reading the footnotes:

- The MTR is 37%
- There is a non-recurring gain of 1,300 in SG&A

Question 13

Calculate ETR, normalized ETR, and normalized net income for the following business.

Escalante's income statement	
Revenues	200,890
Cost of goods sold	130,000
Gross profit	70,890
SG&A	59,890
Operating profit	11,000
Interest expense	3,837
Profit before tax	7,163
Tax expense	3,851
Net income / profit after tax	3,312

You find out the following information from a review of the footnotes:

Depreciation and amortization in the CFS is 66,773

Research and development is 2,300

There is a legal claim provision of 31,900 with regard to a failed product in SG&A

The marginal tax rate 36%

Question 14

Use the following extract from Dillard's 10-K to calculate the company's effective and marginal tax rates for the most recent year. You will also need the Dillard's income statement provided in question 9. Your boss has told you that the effective tax rate for the prior year was 36.2% and would like you to explain why it is so different in the latest year.

A reconciliation between the Company's income tax provision and income taxes using the federal statutory income tax rate is presented below:

(in thousands of dollars)	Fiscal 2005	Fiscal 2004	Fiscal 2003
Income tax at the statutory federal rate	\$ 47,525	\$64,593	\$5,598
State income taxes, net of federal benefit	1,870	1,834	122
Nondeductible goodwill write off	344	433	869
Changes in tax rate	5,469	—	—
Benefit of capital loss carrybacks	(45,415)	—	—
Other	4,507	25	61
	<u>\$ 14,300</u>	<u>\$66,885</u>	<u>\$6,650</u>

Question 15

Use the following extracts from the Circuit City annual report to calculate normalized net income.

NET SALES	\$11,597,686	100.0
Cost of sales, buying and warehousing	8,766,754	75.6
GROSS PROFIT	2,830,932	24.4
Finance income	—	—
Selling, general and administrative expenses	2,583,625	22.3
Stock-based compensation expense	26,908	0.2
OPERATING INCOME (LOSS)	220,399	1.9
Interest income	21,826	0.2
Interest expense	3,143	—
Earnings (loss) from continuing operations before income taxes	239,082	2.1
Income tax provision (benefit)	87,970	0.8
NET EARNINGS (LOSS) FROM CONTINUING OPERATIONS	151,112	1.3
LOSS FROM DISCONTINUED OPERATIONS, NET OF TAX	(9,013)	(0.1)
CUMULATIVE EFFECT OF CHANGE IN ACCOUNTING		
PRINCIPLE, NET OF TAX	(2,353)	—
NET EARNINGS (LOSS)	\$ 139,746	1.2
Federal statutory income tax rate	35.0%	
State and local income taxes, net of federal benefit	2.0	
Non-deductible meals and entertainment	0.1	
Non-deductible contributions	—	
Resolution of prior year taxes	—	
Taxes on foreign income that differ from the federal statutory rate	(0.1)	
Change in statutory rate of deferred tax (liability) asset	(0.4)	
Federal and state tax credits	(0.2)	
Other	0.4	
Effective income tax rate	36.8%	

Question 16

Use the following extracts from Best Buy's annual report to calculate 2005 normalized net income.

For the Fiscal Years Ended	2006	2005
Revenue	\$30,848	\$27,433
Cost of goods sold	<u>23,122</u>	<u>20,938</u>
Gross profit	7,726	6,495
Selling, general and administrative expenses	<u>6,002</u>	<u>5,053</u>
Operating income	1,644	1,442
Net interest income (expense)	<u>77</u>	<u>1</u>
Earnings from continuing operations before income tax expense	1,721	1,443
Income tax expense	<u>581</u>	<u>509</u>
Earnings from continuing operations	1,140	934
Loss from discontinued operations (Note 2), net of tax	<u>—</u>	<u>—</u>
Gain (loss) on disposal of discontinued operations (Note 2), net of tax	<u>—</u>	<u>50</u>
Net earnings	<u><u>\$ 1,140</u></u>	<u><u>\$ 984</u></u>

Impairment of Long-Lived Assets and Costs Associated With Exit Activities

We recorded pre-tax asset impairment charges of \$4, \$22 and \$22, in fiscal 2006, 2005 and 2004, respectively. The impairment charges in fiscal 2006 related to technology and store assets that were taken out of service due to changes in our business. The impairment charges in fiscal 2005 related to technology assets that were taken out of service due to changes in our business and charges associated with the disposal of corporate facilities that had been vacated. The impairment charges in fiscal 2004 related to corporate technology assets that were taken out of service based on changes in our business. Impairment charges are included in selling, general and administrative expenses (SG&A) and relate to our Domestic segment operations.

\$ in millions, except per share amounts

9. Income Taxes

The following is a reconciliation of the federal statutory income tax rate to income tax expense from continuing operations for the past three fiscal years:

	2006	2005	2004
Federal income tax at the			
statutory rate	\$ 603	\$ 505	\$ 454
State income taxes, net of			
federal benefit	34	29	27
Distributed earnings of			
foreign subsidiaries	<u>—</u>	<u>—</u>	<u>13</u>
Benefit from foreign			
operations	(37)	(7)	(3)
Non-taxable interest income	(28)	(22)	(19)
Other	<u>9</u>	<u>4</u>	<u>24</u>
Income tax expense	<u><u>\$ 581</u></u>	<u><u>\$ 509</u></u>	<u><u>\$ 496</u></u>
Effective income tax rate	33.7%	35.3%	38.3%

Question 17

Complete the following parts of the comparable company profiles for your "in class" case companies

- Operating profit
- Operating profit margin
- EBIT
- EBIT margin
- EBITDA
- EBITDA margin
- ETR
- MTR
- NI
- NI margin
- Normalized NI
- Normalized NI margin
- Basic EPS
- Diluted EPS

Income statement drill answers

Answer 1

Singapore Airlines	as passengers fly, cash is received in advance but revenue is recognized only when the service is delivered
Wal-Mart	as customers buy the product, cash is received at the same time
Intel	as the product is delivered, cash is received in arrears

Answer 2

Cash
Accounts receivable
Deferred revenue liabilities

Answer 3

Accounts receivable as % of sales would increase since the customers are given extended credit terms.

Expenses would increase (and profit margin would decrease) because of the storage costs payments.

Answer 4

This is the % completion method. Revenue is recognized as the service is delivered over time. The contract deliverables often are a good way to work out the % completed for revenue recognition.

Answer 5

Inventories

Answer 6

Service industries where most of the cost is salaries and it is not easy to distinguish between COGS and SG&A

Answer 7

Manufacturing where most of the assets are production oriented

Answer 8

Operating profit	11,000
Add back:	
Non-recurring legal provision expense	31,900
EBIT	42,900
Depreciation and amortization	66,773
EBITDA	109,673

Answer 9

(in thousands)	
Net sales	7,560,191
less operating costs:	
- Cost of sales	5,014,021
- Advertising, selling, administrative and general expenses	2,041,481
- Depreciation and amortization	301,864
- Rentals	47,538
EBIT	155,287

Answer 10

(in thousands)	
Operating income	4,347
+ Other product charges (non-recurring)	338
+ SG&A charges (non-recurring)	104
EBIT	4,789
+ Depreciation & amortization	393
EBITDA	5,182

Answer 11

Line item	Value	Adjustment	Cleaned
Profit before tax	5,116.4	42,988.0	48,104.4
Tax expense	2,750.7	13,756.2	16,506.9
(42,988 * 32%)			
ETR (tax expense / profit before tax)	53.8%		34.3%

Answer 12

Line item	Value	Adjustment	Normalized
Profit before tax	3,888.5	(1,300.0)	2,588.5
Tax expense	1,480.0	(481.0)	999.0
(1,300 * 37%)			
After tax adjustment		449.5	
Net income	1,959.0	(369.5) (-1,300 + 481 + 449.5) or (-1,300 * (1 - 37%) + 449.5)	1,589.5

Answer 13

Line item	Value	Adjustment	Normalized
Profit before tax	7,163	31,900	39,063
Tax expense	3,851	11,484	15,335
(31,900 * 36%)			
Net income / profit after tax	3,312	20,416 (31,900 – 11,484) or 31,900 * (1-36%)	23,728
ETR	53.8%		39.3%

Answer 14

Income before income taxes	135,785
Income taxes	14,300
Effective tax rate	10.5%
= income taxes / income before income taxes	
Income tax at the statutory federal rate	47,525
State income taxes, net of federal benefit	1,870
Implied marginal tax rate	36.4%
= (federal + state taxes) / income before income taxes	

Most of the difference in ETR is due to the effects of changes in the tax rate and beneficial capital loss carrybacks.

Answer 15

Net earnings (loss)	139,746
Loss from discontinued operations, net of tax	9,013
Cumulative effect of change in accounting principle, net of tax	2,353
Normalized net income	151,112
= net earnings + sum of after-tax adjustments	

Answer 16

Implied MTR calculation (from tax note):	
Federal income tax	505
State tax, net of federal benefits	29
Earnings from continuing operations before income tax expense	1,443
Implied MTR	37.0%
= (federal + state taxes) / earnings before income taxes	

Net earnings	984
pre-tax adjustments:	
pre-tax impairment charges embedded in SG&A	22
Implied MTR	37.0%
after-tax adjustments:	
Impairment charges embedded in SG&A	14
= pre-tax charges * (1 - MTR)	
Loss from discontinued operations, net of tax	0
(Gain) / loss on disposal of discontinued operations, net of tax	(50)
Normalized net income = net earnings + after-tax adjustments	948

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Working capital

Overview

- Current assets
- Current liabilities
- Working capital
- Analyzing working capital

Current assets

Current assets

Assets expected to be used or sold within 1 year

Current assets	Year 1	Year 2
Cash and cash equivalents	278,843	253,666
Short-term investments	635	1,100
Accounts receivable	469,221	463,231
Finished goods	280,712	241,897
Raw materials	339,370	351,088
Total inventories	620,082	592,985
Prepayments	180,997	170,245
Total current assets	1,549,778	1,481,227

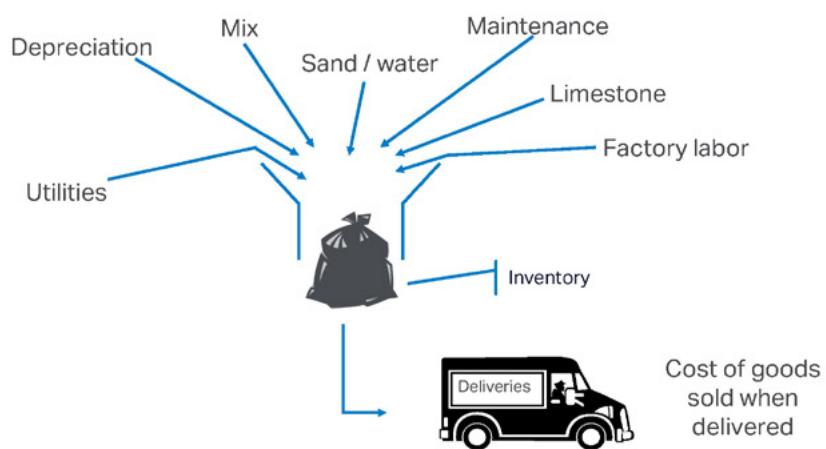
Current assets: examples

From the notes of company accounts

- Cash and cash equivalents
 - The Company considers all highly liquid investments with the original maturity of three months or less to be cash equivalents.
- Accounts receivable
 - In the normal course of business, the Company extends credit to customers that satisfy pre-defined credit criteria.
 - Accounts receivable are net of allowances and anticipated discounts.
- Inventories
 - Inventories consist of materials, labor and overhead associated with the production process.
 - Inventories are valued at cost on a last-in, first-out (LIFO) basis for U.S. associated companies and at the lower of cost (principally first-in, first-out basis) or market for non-U.S. associated companies.

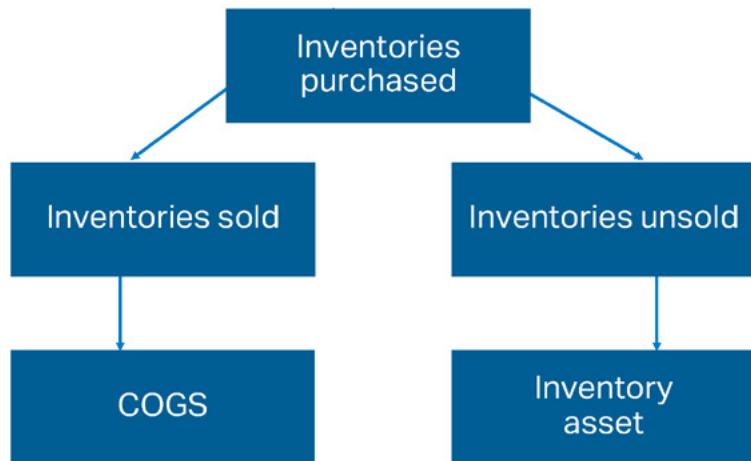
Inventory

Valuation



Inventory

Income statement and balance sheet



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Inventory

Change during the period

- Beginning amount No. units x Unit cost of production
- Additions Purchases and manufacturing costs
- Subtractions When sold → become COGS (on P&L)
- Ending amount No. units x Unit cost of production
 → reported on balance sheet

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Inventory valuation methods

- FIFO First-in first-out
- LIFO Last-in first-out
(not allowed by IFRS but common in the USA)
- Weighted average cost

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Inventory valuation

Example

- No opening inventory
- Purchased 700 units for \$6 each and later purchased 600 units for \$8 each
- Sells 1,000 units at a price of \$10 each

Inventory and Profit calculations	LIFO	FIFO
Opening inventory	0	0
Add: Purchases (700 @ 6 + 600 @ 8)	9,000	9,000
Less: Cost of goods sold (COGS)	7,200	6,600
	(600 @ 8 + 400 @ 6)	(700 @ 6 + 300 @ 8)
= Closing inventory	1,800	2,400
	(300 @ 6)	(300 @ 8)
Gross Profit	2,800	3,400
	(10,000 – 7,200)	(10,000 – 6,600)

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Current liabilities

Current liabilities

Obligations which are payable within 1 year

Current liabilities	Year 1	Year 2
Short-term debt	-	65,000
Accounts payable	371,349	327,671
Accrued expenses	500,552	413,942
Dividends payable	79,965	71,106
Income and other taxes payable	149,254	149,410
Total current liabilities	1,101,120	1,027,129

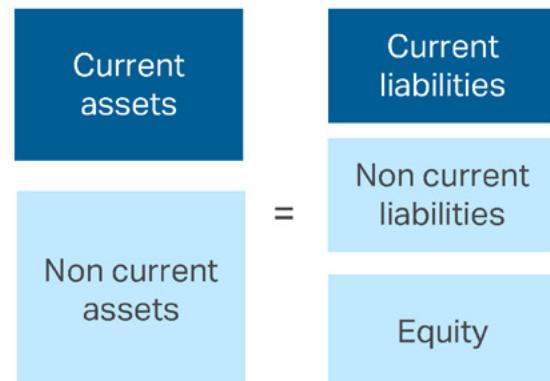
Examples of key types of current liabilities

- Short-term debt
 - Interest-bearing debt due within one year and / or current portion of long-term debt
- Accounts payable
 - Amounts owed to suppliers
- Accrued expenses
 - Operating costs incurred during the year but not yet paid
- Dividends payable
 - Dividends declared but not yet paid to shareholders
- Taxes payable

Working capital

Definition and calculations

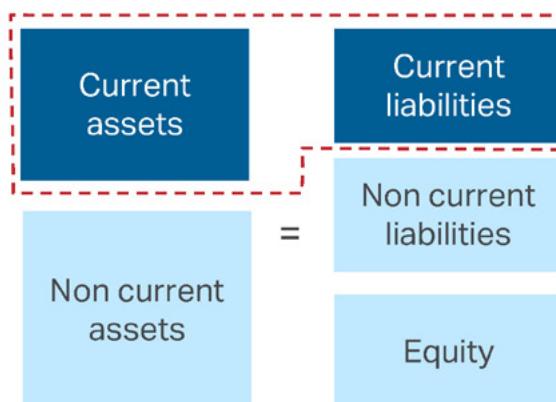
The accountant's balance sheet



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Working capital

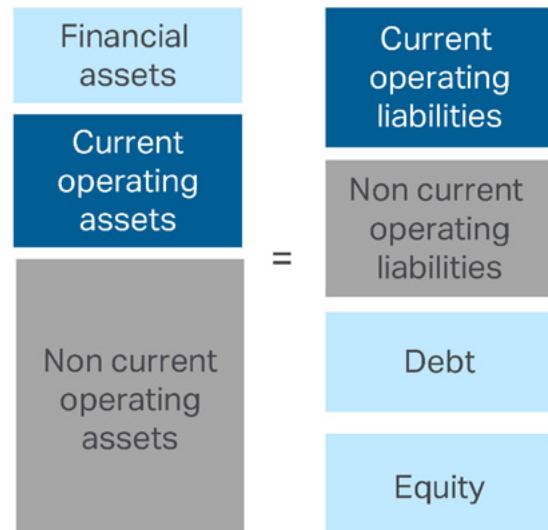


WC is used in credit analysis

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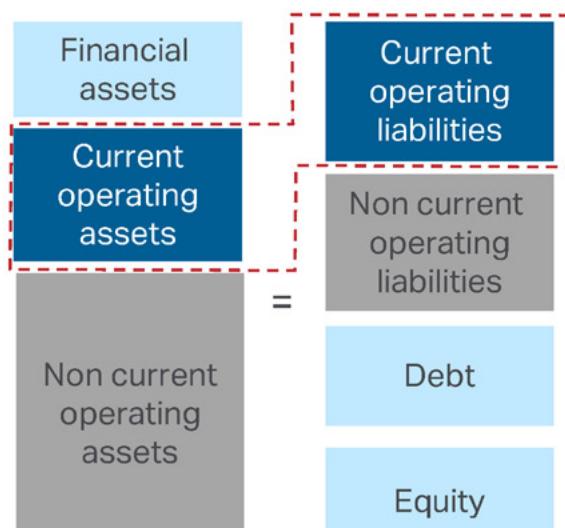
The analyst's version of the balance sheet



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Operating working capital



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Operating working capital

Example

Current assets	Year 1
Cash and cash equivalents	278,843
Short-term investments	635
Accounts receivable	469,221
Finished goods	280,712
Raw materials	339,370
Total inventories	620,082
Prepayments	180,997
Total current assets	1,549,778

Current liabilities	Year 1
Short-term debt	-
Accounts payable	371,349
Accrued expenses	500,552
Dividends payable	79,965
Income and other taxes payable	149,254
Total current liabilities	1,101,120

Operating working capital

Example (1 of 4)

Determine the balances in the following accounts on Day 1

Buy a widget on day 1 of the week for 10.0 in cash.
The widget will be sold for 20 on day 7 in cash.

Cash	Inventory Accounts receivable Accounts payable	OWC
------	--	-----

Operating working capital

Example (2 of 4)

Determine the balances in the following accounts on Day 1

Buy a widget on day 1 of the week for 10.0 on credit payable in 30 days. The widget will be sold for 20 on day 7 in cash.

Cash	Inventory Accounts receivable Accounts payable	OWC
------	--	-----

Operating working capital

Example (3 of 4)

Determine the balances in the following accounts on Day 7

Buy a widget on day 1 of the week for 10.0 on credit payable in 30 days. The widget is sold for 20 on day 7 in cash.

Cash	Inventory Accounts receivable Accounts payable	OWC
------	--	-----

Operating working capital

Example (4 of 4)

Determine the balances in the following accounts on Day 7

Buy a widget on day 1 of the week for 10.0 on credit payable in 30 days. The widget is sold for 20 on day 7 on credit, payable in 60 days.

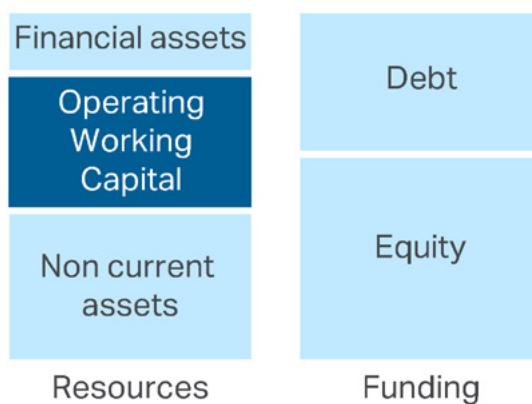
Cash	Inventory Accounts receivable Accounts payable	OWC
------	--	-----

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Should OWC be positive or negative?

Positive OWC requires funding

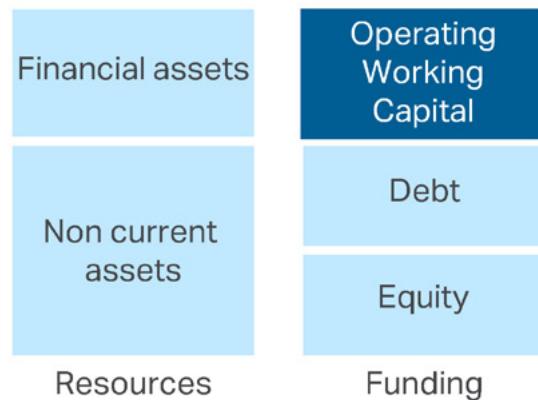


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Should OWC be positive or negative?

Negative OWC provides funding



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Understanding OWC and its link with cash flow

Examples 1 and 2

- Example 1

	Year 1	Year 2
OWC	200	250
Impact on cash flow?	-	(50)

- Negative cash flow impact of 50 during year 2 because increasing OWC requires more funding

- Example 2

	Year 1	Year 2
OWC	550	535
Impact on cash flow?	-	15

- Positive cash flow impact of 15 because decreasing OWC releases cash

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Understanding OWC and its link with cash flow

Examples 3 and 4

- Example 3

	Year 1	Year 2
OWC	(720)	(680)
Impact on cash flow?	-	?

- Example 4

	Year 1	Year 2
OWC	(440)	(540)
Impact on cash flow?	-	?

Operating working capital

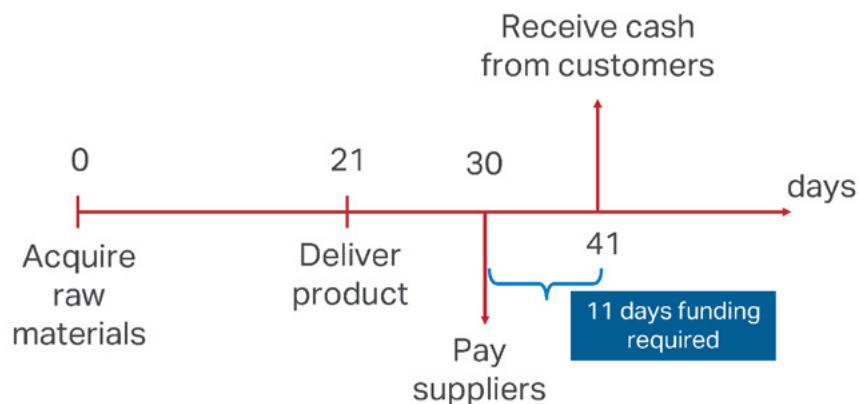
Summary

- Driven by operating activities only
- Helps assess effectiveness of management
- Gives you insights into the operating dynamics of a business
- OWC calculation is often simplified by taking only 3 items:
= Inventories + Receivables - Accounts payable

Analyzing working capital

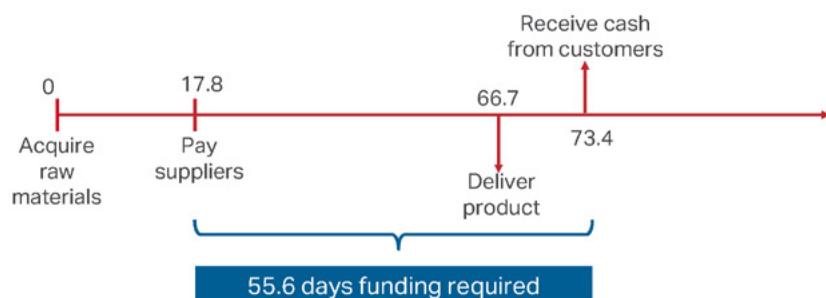
Ratios

Understanding the cash cycle



The cash cycle for a home improvements retailer

Receivable days	=	6.7
Payable days	=	17.8
Inventory days	=	66.7
OWC	=	\$26.0m

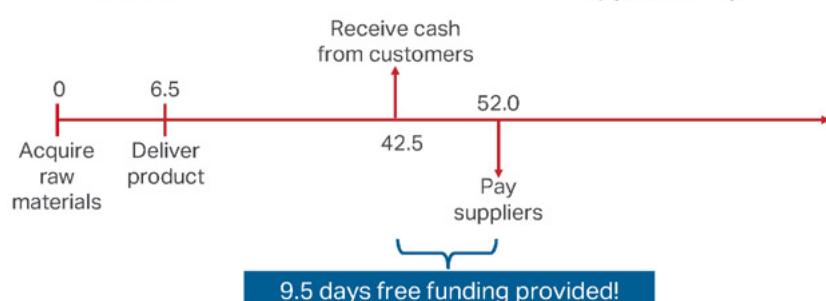


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The cash cycle for an IT supplier

Receivable days	=	36.0
Payable days	=	52.0
Inventory days	=	6.5
OWC	=	\$(537.0m)



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Estimating OWC days

Analyzing OWC components

$$\text{Receivable days} = \frac{\text{Ending receivables}}{\text{Sales}} \times 365$$

$$\text{Payable days} = \frac{\text{Ending payables}}{\text{Cost of goods sold}} \times 365$$

$$\text{Inventory days} = \frac{\text{Ending inventories}}{\text{Cost of goods sold}} \times 365$$

These ratios can also be calculated using averages (rather than ending balances)

Solutions to exercises

Operating working capital

Example (1 of 4)

Determine the balances in the following accounts on Day 1

Buy a widget on day 1 of the week for 10.0 in cash. The widget will be sold for 20 on day 7 in cash.			
Cash - 10	Inventory + 10 Accounts receivable Accounts payable	OWC	+ 10

OWC is 10 positive, cash impact is negative

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Operating working capital

Example (2 of 4)

Determine the balances in the following accounts on Day 1

Buy a widget on day 1 of the week for 10.0 on credit payable in 30 days. The widget will be sold for 20 on day 7 in cash.			
Cash 0	Inventory + 10 Accounts receivable Accounts payable + 10	OWC	0

OWC is 0, there is no impact on cash because the inventory of 10 has been funded for free by the suppliers

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Operating working capital

Example (3 of 4)

Determine the balances in the following accounts on Day 7

Buy a widget on day 1 of the week for 10.0 on credit payable in 30 days.
The widget is sold for 20 on day 7 in cash.

Cash	+ 20	Inventory	+ 10 – 10 = 0	OWC	- 10
		Accounts receivable			
		Accounts payable	+ 10		

OWC is 10 negative, 10 of free financing has been provided by suppliers. 20 of cash has been received from customers

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Operating working capital

Example (4 of 4)

Determine the balances in the following accounts on Day 7

Buy a widget on day 1 of the week for 10.0 on credit payable in 30 days.
The widget is sold for 20 on day 7 on credit, payable in 60 days.

Cash	0	Inventory	+ 10 – 10 = 0	OWC	+ 10
		Accounts receivable	+ 20		
		Accounts payable	+ 10		

OWC is 10 positive, 20 has been invested giving credit to customers, but 10 has been provided, for free by suppliers

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Understanding OWC and its link with cash flow

Examples 3 and 4

- Example 3

	Year 1	Year 2
OWC	(720)	(680)
Impact on cash flow?	-	(40)

- Negative cash flow impact of 40 during year 2 because increasing OWC requires more funding

- Example 4

	Year 1	Year 2
OWC	(440)	(540)
Impact on cash flow?	-	100

- Positive cash flow impact of 100 during year 2 because decreasing OWC releases cash

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Current assets and liabilities drill questions

Question 1

Julio Corp discloses the following information for the month of June:

Date	Transaction	Volume	Value
June 1	Balance	300	@ 10
June 11	Purchased	800	@ 12
June 20	Purchased	500	@ 14
June 10	Sold	200	@ 24
June 15	Sold	500	@ 25
June 27	Sold	300	@ 26

Compute the gross profit and ending inventory under (1) LIFO; (2) FIFO. You should use the periodic method (ignore the detail of the dates) to calculate the inventory numbers.

Method	COGS	Ending inventory
LIFO		
FIFO		

Why does LIFO usually produce a lower gross profit than FIFO?

For normal products in an inflationary period, which inventory method (FIFO, LIFO, average cost) will show the highest net income?

Question 2

Using the information from the balance sheets below, calculate the company's working capital and operating working capital.

Cash & cash equivalents	2,020	1,764
Marketable securities	48	47
Receivables	3,064	3,145
Inventories	1,480	1,660
Deferred income tax assets	711	520
Other	360	173
Total current assets	7,683	7,309
Net PP&E	5,292	5,377
Goodwill	616	536
Other non-current assets	872	911
Long term deferred income tax assets	505	344
Total assets	14,968	14,477
Accounts payable	3,398	3,327
Short term borrowings	371	586
Long term debt currently payable	1,701	567
Dividends payable	136	137
Deferred income tax liabilities	129	26
Total current liabilities	5,735	4,643
Long term borrowings	660	665
Post employment benefits	3,671	3,247
Other long term liabilities	790	704
Long term deferred tax liabilities	95	97
Total liabilities	10,951	9,356
Common stock	966	974
Additional paid in capital	523	896
Retained earnings	4,485	5,184
Treasury stock	(1,957)	(1,933)
Total shareholders' equity	4,017	5,121
Total liabilities & equity	14,968	14,477

	Year 1	Year 2
WC		
OWC		

Question 3

Company X sells home improvement products. Its competitive advantage is the wider range of products the company has available in its stores. It has to maintain large amounts of inventory to sustain its competitive advantage. Over the last two years its sales and current assets and liabilities were as follows:

	Year 1	Year 2
Sales	24,516	30,219
COGS	13,484	16,016
Cash & cash equivalents	172	62
Short term investments	2	0
Receivables, net	556	469
Inventories	3,602	4,293
Other current assets	128	109
Total current assets	4,460	4,933
Accounts payable	1,358	1,586
Accrued salaries	312	395
Sales taxes payable	143	176
Other accrued expenses	530	586
Income taxes payable	105	100
Current installments of LTD	8	14
Total current liabilities	2,456	2,857

Calculate the following:

	Year 1	Year 2
WC		
OWC		
OWC as % of sales		
Ending receivable days		
Ending inventory days		
Ending payable days		

Does the OWC free or use up funding?

If sales grow by 10% and OWC as % of sales stays steady, what is the OWC at the end of year 3?

What will be the impact on cash flow during year 3?

If sales fall by 10% and OWC as % of sales stays steady, what is the OWC at the end of year 3?

What will be the impact on cash flow during year 3?

Question 4

Airline Co-operates a global airline business. It receives cash from its customers before it flies them. The cash received is accounted for by an increase in cash and a corresponding increase in the current air traffic liability. Here is some information about the airline

	Year 1	Year 2
Total operating revenues	15,856	16,299
COGS	9,989	10,594
Cash	85	47
Short term investments	2,282	1,762
Receivables	1,152	1,057
Inventories	520	555
Deferred income taxes	426	360
Other current assets	167	201
Total current assets	4,632	3,982
Accounts payable	940	855
Short term debt	0	595
Accrued salaries and wages	892	805
Accrued liabilities	1,178	915
Air traffic liability	2,163	2,044
Current maturities of LTD	23	21
Current capital leases	129	112
Total current liabilities	5,325	5,347

Calculate the following:

	Year 1	Year 2
WC		
OWC		
OWC as % of sales		
Ending receivable days		
Ending inventory days		
Ending payable days		

Does the OWC free or use up funding?

If sales grow by 10% and OWC as % of sales stays steady, what is the OWC at the end of year 3?

What will be the impact on cash flow during year 3?

If sales fall by 10% and OWC as % of sales stays steady, what is the OWC at the end of year 3?

What will be the impact on cash flow during year 3?

Question 5

	Case 1	Case 2
Receivable days	42	15
Inventory days	27	12
Payable days	35	46
Days funding (provided) / required	??	??

Question 6

Complete the following parts of the comparable company profiles for your "in class" case companies.

- OWC
- OWC as % of sales
- Ending receivables days
- Ending inventory days
- Ending payable days

Current assets and liabilities drill answers

Answer 1

Compute the gross profit and ending inventory under (1) LIFO; (2) FIFO

Method:	Gross profit	Ending inventory
LIFO	12,100	6,600
FIFO	13,700	8,200

Calculations:

Sales = 25,100 [volumes sold x sale price per unit]

COGS (LIFO) = 13,000 [volumes sold x acquisition price per unit; starting from latest purchases]

COGS (FIFO) = 11,400 [volumes sold x acquisition price per unit; starting from existing inventory]

Why does LIFO usually produce a lower gross profit than FIFO?

Usually costs are increasing due to inflation and it uses the latest prices for COGS

For normal products in an inflationary period, which inventory method (FIFO, LIFO, average cost) will show the highest net income?

FIFO will produce higher net income

Answer 2

	Year 1	Year 2
WC	1,948	2,666
OWC	2,088	2,145

Answer 3

	Year 1	Year 2
WC	2,004	2,076
OWC	1,838	2,028
OWC as % of sales	7.5%	6.7%
Ending receivable days	8 days	6 days
Ending inventory days	98 days	98 days
Ending payable days	37 days	36 days

Does the OWC free or use up funding?

The OWC is positive and therefore uses up funding

If sales grow by 10% and OWC as % of sales stays steady, then what is the OWC at the end of year 3?

2,028.0 * 1.10 = **2,230.8**

What will be the impact on cash flow during year 3?

OWC goes up by 202.8 and has a **negative impact on cash flow**

(2,230.8 – 2,028.0)

If sales fall by 10% and OWC as % of sales stays steady, then what is the OWC at the end of year 3?

$2,028.0 * 0.90 = \mathbf{1,825.2}$

What will be the impact on cash flow during year 3?

OWC goes down by 202.8 and has a **positive impact on cash flow**

(1,825.2 - 2,028.0)

Answer 4

	Year 1	Year 2
WC	(693.0)	(1,365.0)
OWC	(2,908.0)	(2,446.0)
OWC as % of sales	(18.3%)	(15.0%)
Ending receivable days	27 days	24 days
Ending inventory days	19 days	19 days
Ending payable days	34 days	29 days

Does the OWC free or use up funding?

The OWC is negative and therefore it frees up funding

If sales grow by 10% and OWC as % of sales stays steady, then what is the OWC at the end of year 3?

$(2,446.0) * 1.10 = \mathbf{(2,690.6)}$

What will be the impact on cash flow during year 3?

OWC goes down by 244.6 (the negative OWC becomes more negative) and has a **positive impact on cash flow**

((2,690.6) – (2,446.0))

If sales fall by 10% and OWC as % of sales stays steady, then what is the OWC at the end of year 3?

$(2,446.0) * 0.90 = \mathbf{(2,201.4)}$

What will be the impact on cash flow during year 3?

OWC goes up by 244.6 (the negative OWC becomes less negative) and has a **negative impact on cash flow**

((2,201.4) – (2,446.0))

Answer 5

	Case 1	Case 2
Receivable days	42	15
Inventory days	27	12
Payable days	35	46
Days funding (provided) / required	34 required	(19) provided

Answer 6

The answer to your "in class" case companies will be covered in class.

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Non-current assets

Non-current assets

What are they?

- Long-term assets: intended to be held for more than one year
- 'Strategic' assets
- Key categories:
 - Property, Plant & Equipment (PP&E)
 - Intangible assets
 - Financial assets
 - Other (tax, pensions etc)

Non-current assets

Presentation example

Non current assets	Year 1	Year 2
Land	81,231	78,625
Buildings and building equipment	734,623	717,374
Machinery and equipment	2,055,063	1,886,018
Total property, plant and equipment, at cost	2,870,917	2,682,017
Less accumulated depreciation	1,310,853	1,259,502
Net property, plant and equipment	1,560,064	1,422,516
Deferred charges and other assets	214,457	194,382
Goodwill	1,422,957	1,147,603
Other intangible assets	484,256	415,870
Total non current assets	3,681,734	3,180,371

Accounting for non current assets

Depreciation & Amortization

Depreciation & amortization

- A process that spreads the cost of an asset over its useful life
- Applied to PP&E (depreciation) and to intangibles (amortization)



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Depreciation & amortization

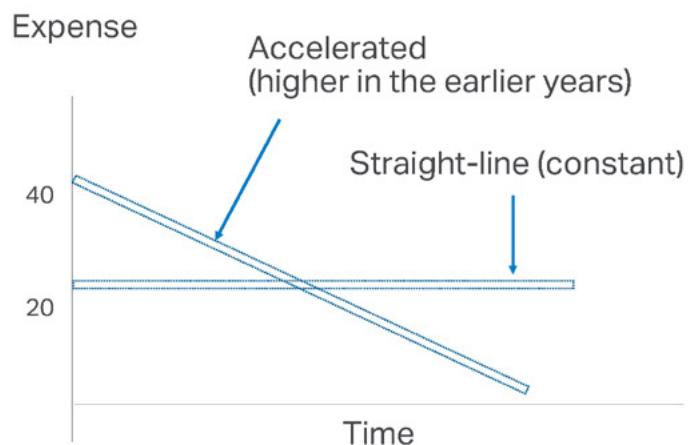
- The process results in a series of expenses over a number of years
- D&A are non-cash expenses



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Depreciation & amortization



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Accounting for PP&E and intangibles

- Expensed over their life: depreciation & amortization
- Exceptions:
 - Assets with indefinite useful life
 - Goodwill
- Any assets not subject to D&A must be tested for impairment annually
- Impairment: a permanent reduction in the value of the asset

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Goodwill

- Asset which is created only when a business acquisition is made
 - = Purchase price - Fair value of the net assets acquired
- Example:
 - Price paid in the business acquisition = 100
 - Fair value of the net assets acquired = 75
 - Goodwill = 25
- Goodwill recognises the payment made for assets that cannot be separately recognised on the acquirer's balance sheet

NCA Analysis
BASE and Ratios

PP&E

BASE analysis

Beginning amount

Additions Purchase of PP&E (capital expenditure)

Subtractions Depreciation

Ending amount

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Intangible assets

BASE analysis

Beginning amount

Additions Purchase of intangible assets

Subtractions Amortization

Ending amount

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Ratio analysis

Capex

—
Sales

How capex intensive is the business?

Sales

—
Net PP&E

'PP&E turnover'

What is the relationship between the investment (PP&E) and the sales?

Capex

—
Depreciation

Is PP&E growing?

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Non-current assets drill questions

Question 1

Your boss has asked you to make some changes to a forecast model and to sanity check the output once the changes are processed. She suggests you check the following line items:

Rio Fashions & Co	
Gross PP&E	5,005
Accumulated depreciation	4,123
Net PP&E	882
Cost of goods sold	800
Total assets	3,258
Total liabilities	1,147
Total equity	2,111

Predict what these numbers will be when you increase the warehouse depreciation expense by 156:

Rio Fashions & Co – adjusted for extra depreciation	
Gross PP&E	
Accumulated depreciation	
Net PP&E	
Cost of goods sold	
Total assets	
Total liabilities	
Total equity	

Predict what these numbers will be when you increase the capital expenditure by 320 (paid in cash). Assume the first change has not yet been made:

Rio Fashions & Co – adjusted for extra capital expenditure	
Gross PP&E	
Accumulated depreciation	
Net PP&E	
Cost of goods sold	
Total assets	
Total liabilities	
Total equity	

Question 2

Harley Davidson had the following property, plant and equipment figures in their financial statements:

Property, plant & equipment, at cost:	
Land & land improvements	2,139
Buildings & improvements	84,150
Machinery & equipment	381,722
Gross property, plant & equipment	468,011
Less accumulated depreciation	183,236
Net property, plant & equipment	284,775

Using the following assumptions and BASE analysis, forecast the impact on Harley Davidson's PP&E accounts:

- Depreciation will remain as 15% of last year's net PP&E
- Capital expenditure will remain as 8% of the same year sales

	Projected Year 1	Projected Year 2
Sales	1,485,000	1,634,000
Net PP&E		
B		
A		
S		
E		
Gross PP&E		
Accumulated depreciation		
Income statement depreciation expense		

Question 3

The José Brothers purchased a large car manufacturing plant in New Jersey. They estimated the factory had five more years of operating life left. They asked their new analyst to prepare a depreciation schedule for the factory using three different methods; straight line, sum-of-the-years'-digits (SYD), and double declining balance (DDB). They estimated the factory would have a zero salvage value. Below are the schedules she prepared:

Year	Straight line	SYD	DDB
1	6,000	10,000	13,200
2	6,000	8,000	7,920
3	6,000	6,000	4,752
4	6,000	4,000	2,851
5	6,000	2,000	1,277
Total	30,000	30,000	30,000

What is the cost of the asset being depreciated?

Excluding the impact of taxes, which depreciation method will save the most cash?

Which method will produce the highest charge to net income in year 1?

Which method will produce the highest charge to net income in year 4?

Which method is the most efficient from a taxation point of view?

Which method gives the highest net book value at the end of year 3?

Question 4

You purchase an ice cream making machine for your new ice cream making business. The machine costs 7,500. You expect the machine to last you three years and depreciate fairly evenly each year. At the end of three years you approximate the salvage value of the machine to be 500. Complete the table:

	Year 1	Year 2	Year 3
Depreciation			
Gross value			
Acc depreciation			
Net value			

Question 5

What makes intangible assets different from other PP&E?

Question 6

How do we reduce intangible assets over time?

Question 7

Which of the following are not intangible assets?

A building	
A patent a company has purchased	
Rights to a broadcasting license	
Inventories ready to be sold	
Orders from customers that have not been shipped	

Question 8

Is amortization a cash expense?

Question 9

You purchase a patent for a special ice cream making recipe. The patent costs you \$2,500 and lasts fifteen years. Fill out the following table:

End of	Net intangible assets	Amortization
Year 1		
Year 2		
Year 3		
Year 4		
Year 5		

Question 10

Complete the following parts of the comparable company profiles for your "in class" case companies

- Net PP&E as % of sales
- Accumulated depreciation / Gross PP&E
- Capital expenditure / Depreciation expense

Non-current assets drill answers

Answer 1

Rio Fashions & Co – adjusted for extra depreciation:	
Gross PP&E	5,005
Accumulated depreciation	4,279
Net PP&E	726
Cost of goods sold	956
Total assets	3,102
Total liabilities	1,147
Total equity	1,955

Rio Fashions & Co – adjusted for extra capital expenditure:	
Gross PP&E	5,325
Accumulated depreciation	4,123
Net PP&E	1,202
Cost of goods sold	800
Total assets	3,258
Total liabilities	1,147
Total equity	2,111

Answer 2

	Projected Year 1	Projected Year 2
Sales	1,485,000	1,634,000
Net PP&E		
B	284,775	360,859
A	118,800	130,720
S	42,716	54,129
E	360,859	437,450
Gross PP&E		
	586,811	717,531
Accumulated depreciation		
	225,952	280,081
Income statement depreciation expense		
	42,716	54,129

Answer 3

What is the cost of the asset being depreciated?

30,000

Excluding the impact of taxes, which depreciation method will save the most cash?

No difference

Which method will produce the highest charge to net income in year 1?

DDB

Which method will produce the highest charge to net income in year 4?

Straight Line

Which method is the most efficient from a taxation point of view?

In most countries the GAAP depreciation has no impact on taxes. If it did then DDB would be the most efficient.

Which method gives the highest net book value at the end of year 3?

Straight line

Answer 4

	Year 1	Year 2	Year 3
Depreciation	2,333	2,333	2,333
Gross value	7,500	7,500	7,500
Acc depreciation	2,333	4,667	7,000
Net value	5,167	2,833	500

Answer 5

What makes intangible assets different from other PP&E?

They can not be seen, touched or physically measured

Answer 6

How do we reduce intangible assets over time?

Amortization or impairment

Answer 7

Which of the following are not intangible assets in the balance sheet?

A building	X
A patent a company has purchased	
Rights to a broadcasting license	
Inventories ready to be sold	X
Orders from customers that have not been shipped	X

Answer 8

Is amortization a cash expense?

No, it is not a cash expense

Answer 9

End of:	Net intangible assets	Amortization
Year 1	2,333	167
Year 2	2,167	167
Year 3	2,000	167
Year 4	1,833	167
Year 5	1,667	167

Answer 10

The answer to your "in class" case companies will be covered in class.

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Debt and Equity

Long term funding

Introduction

Equity

- Provided by shareholders
- Permanent capital
- Voting rights: influence / control
- Higher risk

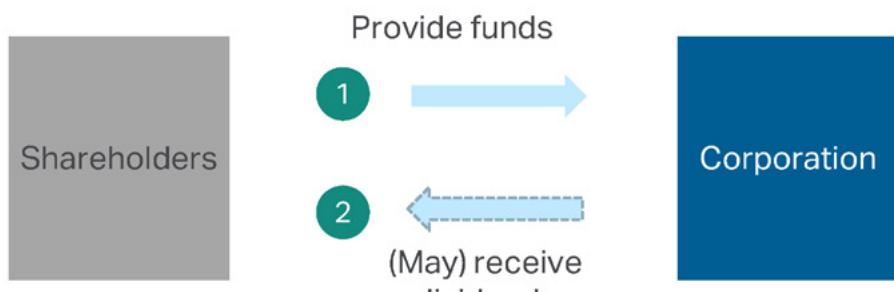
Debt

- Provided by investors (lenders)
- Borrower must repay it
- Examples: bonds and loans
- Lower risk



Equity Financing

Equity



- 1) Equity investments do not have a maturity
- 2) Dividends are discretionary payments

Common stock

- Shares have a 'par' or 'nominal' value
 - Reported in the 'common stock' (aka 'share capital') account on balance sheet
- Issue price is always higher than par
- Difference between issue price and par is reported in 'additional paid in capital' (APIC) (aka 'share premium')

Example

Co. A issues 100 new shares at a price of 5 each

Par value per share = 1

Increase in Common Stock account = 1 x 100	100
Increase in APIC account = (5 – 1) x 100	400
Increase in total equity	500

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Number of Shares

Authorized

The number of shares a company is allowed to issue

Issued

Total number of existing shares

Repurchased

Own shares repurchased and held by the company ('treasury stock')

Outstanding

= Issued - Repurchased

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Retained earnings

BASE analysis

Beginning amount

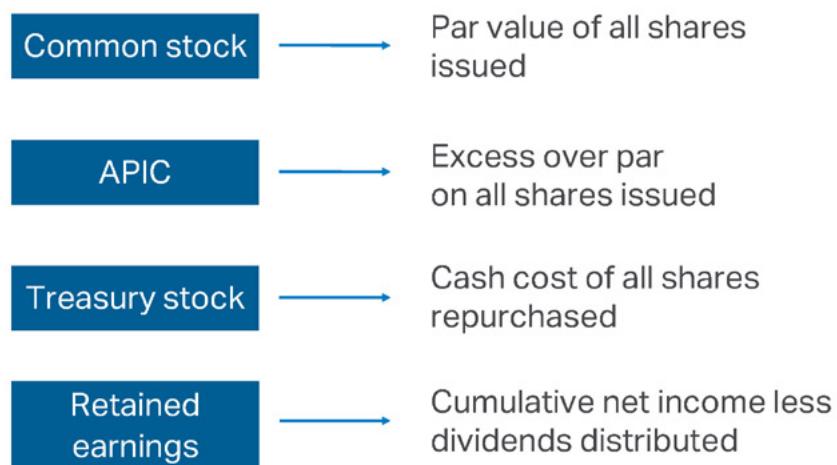
Additions **Net income**

Subtractions **Dividends**

Ending amount

Equity

Balance sheet presentation



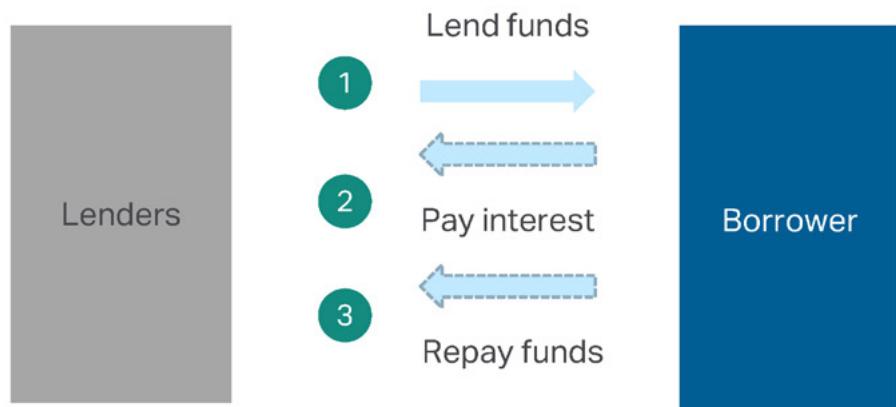
Preferred stock

- Preference shares
- Only some companies have them
- Ranks above common stock on liquidation
- Debt-like characteristics:
 - No voting rights (usually)
 - No maturity (usually)
 - Regular dividend payments (like interest)

Preferred stock ≠ Common stock

Debt Financing

Financial debt



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Debt

Key terms

Amount	How much is borrowed?
Maturities	When is the amount repaid?
Interest	How is it calculated? How often is it paid?
Seniority	Is it repaid before or after other financing instruments?
Covenants	Rules that the borrower must follow
Other	E.g. collateral, events of default etc

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Debt instruments

Examples

Short-term debt

(maturities < 1 year)

- Bank overdrafts
- Revolving facilities
- Notes payable
- Commercial paper
- Current portion of long-term debt

Long-term debt

(maturities > 1 year)

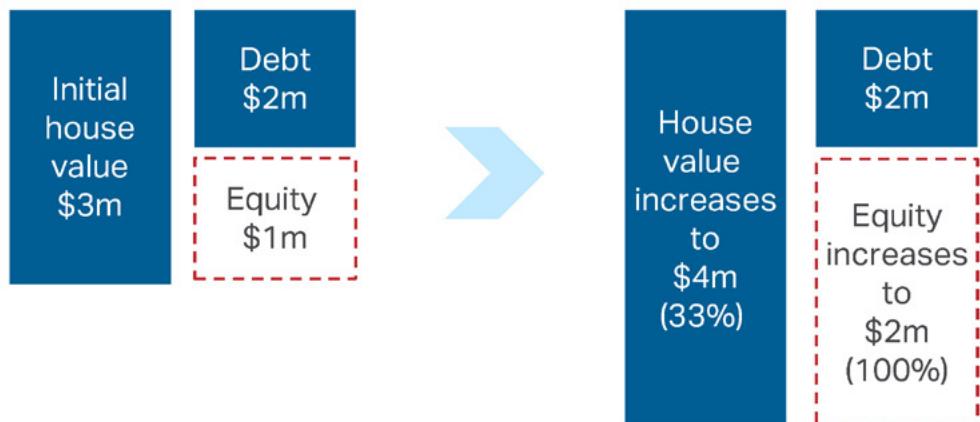
- Corporate bonds / notes
- Bank loans

Debt metrics

- Net debt = Total debt – Liquid financial assets
 - Liquid financial assets: Cash, cash equivalents, securities
- Debt / Equity
 - Financial leverage
- Debt / EBITDA
 - Ability to repay debt
- EBITDA / Interest Expense
 - Ability to pay interest

Leverage illustration

House purchase



Return measures

Return on capital

- Measures the return on the amount of financing invested in the company
- A 'rate' of return
- Definition of 'capital' and definition of 'return' must be consistent with each other

$$\text{Return on capital} = \frac{\text{Return}}{\text{Capital}}$$

How much did the investment generate during the period?

How much capital was invested?

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Return on equity (ROE)

Measures the return on the shareholders' investment

$$\text{Return on equity} = \frac{\text{Net income}}{\text{Shareholders' equity}}$$

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ROE decomposition (DuPont analysis)

ROE can be decomposed into factors

$$\text{ROE} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

Net income margin
Profitability Asset turnover
 Investment efficiency Equity multiplier
 Leverage

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Return on invested capital (ROIC)

- This version of return looks at the total amount of capital provided by investors (shareholders and debtholders)
- Aka 'return on capital employed' (ROCE)
- Usually calculated unlevered (before interest)

Before or after tax
Invested capital

$$\text{Return on invested capital} = \frac{\text{Operating profit}}{\text{Debt and equity}}$$

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ROIC Decomposition

ROIC can be decomposed into factors

$$\text{ROIC} = \frac{\text{Operating profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Invested capital}}$$

Operating profit
margin
Profitability Net operating assets
 turnover
Efficiency

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Debt and equity drill questions

Question 1

Below are the balance sheet liabilities of a business to which you are pitching. Your boss has asked you to calculate the debt numbers at each year end.

Current liabilities		
Payables	722.0	1,260.5
Interest bearing liabilities	1,112.2	770.9
Current tax liabilities	53.9	107.7
Provisions	172.1	131.7
Total current liabilities	2,060.2	2,270.8
Non-current liabilities		
Payables	126.4	183.8
Interest bearing liabilities	1,259.60	2,234.3
Deferred tax liabilities	307.8	326.3
Provisions	88.9	80.6
Total non-current liabilities	1782.7	2,825.0
Total liabilities	3,842.9	5,095.8

Question 2

Your boss then says that he meant to ask you to calculate "net" debt. Here are the assets from the balance sheet. Calculate net debt at each year end.

Current assets		
Cash assets	709.6	357.6
Receivables	692.1	1,429.3
Inventories	1,054.8	1,159.3
Other current assets	55.8	55.1
Total current assets	2,512.3	3,001.3

Non-current assets		
Receivables	82.8	102.7
Inventories	552.6	571.8
Property, plant and equipment	2,142.5	2,771.8
Agricultural assets	265.3	328.5
Intangible assets	2,285.8	2,433.4
Deferred tax assets	387.0	247.7
Other non-current assets	46.5	40.1
Total non-current assets	5,762.5	6,496.0
Total assets	8,274.8	9,497.3

Question 3

At 11pm your boss gives you the income statement and asks you to calculate the following metrics:

- Total debt / EBITDA
- EBITDA / Interest expense

Net sales	3,908.1	4,637.8
COGS	2,020.9	2,406.5
Gross profit	1,887.2	2,231.3
Selling expenses	454.2	567.4
Marketing expenses	343.8	313.5
Distribution expenses	106.6	121.8
Administration expenses	632.2	720.1
Other expenses	188.8	175.3
Earnings before interest and income tax	161.6	333.2
Interest revenue	143.3	146.1
Borrowing expenses	238.2	299.3
Profit before taxes	66.7	180.0
Income tax expense	19.3	55.8
Net profit	47.4	124.2

From a review of the footnotes you discover that depreciation is 136.7 and 162.0 for each respective year and that amortization is 68.2 and 51.4, respectively.

Question 4

Using the balance sheet from Steinway Musical Instruments below, calculate net debt at 31 December 20XY.

	Dec 31, 20XY	Dec 31, 20XX
Assets		
Current assets:		
Cash	\$ 37,304	\$ 30,409
Accounts, notes and other receivables, net	73,131	75,161
Inventories, net	152,451	154,623
Prepaid expenses and other current assets	11,272	12,711
Deferred tax assets	11,571	9,774
Total current assets	<u>285,729</u>	<u>282,678</u>
Property, plant and equipment, net	94,150	95,598
Trademarks	14,119	13,671
Goodwill	32,907	31,481
Other intangibles, net	3,937	4,725
Other assets	18,014	12,988
Long-term deferred tax asset	8,822	6,034
Total assets	<u>\$ 457,678</u>	<u>\$ 447,175</u>
Liabilities and stockholders' equity		
Current liabilities:		
Debt	\$ 2,285	\$ 4,595
Accounts payable	12,381	16,805
Other current liabilities	52,320	44,648
Total current liabilities	<u>66,986</u>	<u>66,048</u>
Long-term debt	173,981	173,816
Deferred tax liabilities	15,003	11,754
Pension and other postretirement benefit liabilities	30,093	32,847
Other non-current liabilities	7,836	4,709
Total Liabilities	<u>293,899</u>	<u>289,174</u>
Commitments and contingent liabilities		
Stockholders' equity		
Class A common stock, \$0.001 par value, 5,000,000 shares authorized, 477,952 shares issued and outstanding	-	-
Ordinary common stock, \$0.001 par value, 90,000,000 shares authorized, 10,052,704 and 9,943,502 shares issued in 2007 and 2006, respectively, and 8,099,728 and 7,898,052 shares outstanding in 2007 and 2006, respectively	11	10
Additional paid-in capital	94,370	90,266
Retained earnings	112,917	125,711
Accumulated other comprehensive income (loss)	1,773	(10,550)
Treasury stock, at cost (1,952,976 shares of Ordinary common stock in 2007 and 2,045,450 shares of Ordinary common stock in 2006)	(45,292)	(47,436)
Total stockholders' equity	<u>163,779</u>	<u>158,001</u>
Total liabilities and stockholders' equity	<u>\$ 457,678</u>	<u>\$ 447,175</u>

Question 5

Using the balance sheet from Walmart below, calculate net debt at 31 January 20XY, ignoring minority interest.

	Jan 31, 20XY	Jan 31, 20XX
Assets		
<i>Current assets:</i>		
Cash and cash equivalents	\$ 5,569	\$ 7,767
Receivables	3,654	2,840
Inventories	35,180	33,685
Prepaid expenses and other	3,182	2,690
Total current assets	47,585	46,982
<i>Property and equipment, at cost:</i>		
Land	19,879	18,612
Buildings and improvements	72,533	64,052
Fixtures and equipment	28,026	25,168
Transportation equipment	2,210	1,966
Property and equipment, at cost	122,648	109,798
Less accumulated depreciation	(28,773)	(24,408)
Property and equipment, net	93,875	85,390
<i>Property under capital lease:</i>		
Property under capital lease	5,736	5,392
Less accumulated amortization	(2,594)	(2,342)
Property under capital lease, net	3,142	3,050
Goodwill	16,071	13,759
Other assets and deferred charges	2,841	2,406
Total assets	\$163,514	\$151,587
Liabilities and shareholders' equity		
<i>Current liabilities:</i>		
Commercial paper	\$ 5,040	\$ 2,570
Accounts payable	30,370	28,484
Accrued liabilities	15,799	14,675
Accrued income taxes	1,016	706
Long-term debt due within one year	5,913	5,428
Obligations under capital leases due within one year	316	285
Total current liabilities	58,454	52,148
Long-term debt	29,799	27,222
Long-term obligations under capital leases	3,603	3,513
Deferred income taxes and other	5,111	4,971
Minority interest	1,939	2,160
Commitments and contingencies		
<i>Shareholders' equity:</i>		
Preferred stock (\$0.10 par value; 100 shares authorized, not issued or outstanding)	—	—
Common stock (\$0.10 par value; 11,000 shares authorized, and outstanding at January 31, 2008 and January 31, 2007)	397	413
Capital in excess of par value	3,028	2,834
Retained earnings	57,319	55,818
Accumulated other comprehensive income	3,864	2,508
Total shareholders' equity	64,608	61,573
Total liabilities and shareholders' equity	\$163,514	\$151,587

Question 6

Calculate the net debt for Next plc at 26 January 20XY, given the following balance sheet and related note extracts. Assume that interest rate derivatives are being used to hedge debt and that the other financial assets are operating items.

	Jan 26, 20XY	Jan 26, 20XX
Current assets		
Inventories	13 319.1	281.8
Trade and other receivables	14 591.5	577.7
Other financial assets	15 12.6	1.2
Cash and short term deposits	16 56.0	121.7
	<hr/> 979.2	<hr/> 982.4
Total assets	<hr/> 1,630.4	<hr/> 1,571.0
Current liabilities		
Bank overdrafts	17 (37.7)	(12.5)
Unsecured bank loans	17 (205.0)	(0.1)
Trade and other payables	18 (652.4)	(621.1)
Other financial liabilities	19 (55.0)	(23.6)
Current tax liability	(92.4)	(81.2)
	<hr/> (1,042.5)	<hr/> (738.5)
Non-current liabilities		
Corporate bonds	20 (539.7)	(531.2)
Net retirement benefit obligation	22 (45.8)	(47.0)
Provisions	23 (9.4)	(9.5)
Deferred tax liabilities	6 (22.6)	–
Other financial liabilities	19 (12.3)	(19.2)
Other liabilities	24 (37.2)	(36.3)
	<hr/> (667.0)	<hr/> (643.2)
Total liabilities	<hr/> (1,709.5)	<hr/> (1,381.7)

39. Current and non-current liabilities

Trade and other payables comprise £12.8m (2007: £10.0m) of other creditors and account financial liabilities comprise amounts payable under contingent purchase contracts for the Company's own shares. The carrying amount of these liabilities approximates to their fair value.

Other non-current financial liabilities comprise interest rate derivative instruments carried at fair value; see Notes 20 and 30. Other non-current liabilities relate to share based payment liabilities.

Details of the bank overdrafts and unsecured bank loans are given in Note 17.

Question 7

Complete the table below after following the chain of events.

Clockwork	
Shares authorized	5,500,000
Shares issued	4,425,456
Shares outstanding	3,952,147

- The shareholders of Clockwork agreed to increase the authorized number of shares by 1,500,000
- The CFO asks Clockwork's investment bank to purchase 530,000 shares on the company's behalf. The CFO will account for this transaction as an increase in the company's treasury stock
- The CFO also issues an additional 190,987 new shares (he does not use shares in the treasury stock account), after Clockwork's executive management exercise some of their share options

Clockwork	
Shares authorized	
Shares issued	
Shares outstanding	

Question 8

Complete the table below after the following transactions:

- Clockwork issues an additional 2,000 shares at a price of 50
- The new shares have a par value of 1
- As part of Clockwork's ongoing share repurchase program the company repurchases 5,000 shares at a price of 55

Clockwork	
Common stock	100,000
APIC	1,900,000
Treasury stock	(500,000)

Clockwork	
Common stock	
APIC	
Treasury stock	

Question 9

Using the following information complete Blake's end of year retained earnings balance.

- Revenues during the year were 1,251,458
- Operating costs (excluding taxes) were 925,457
- Tax expense was 50,258
- Beginning retained earnings was 158,475
- 250,000 6.75% preferred stock was issued two years ago and is treated as equity by Blake
- A common stock dividend of 24,500 was declared and paid before the year end

Question 10

If you were building a forecast for your "in class" case companies, what would you include for the debt repayment schedule for long term debt? (Your boss does not want you to analyze debt into its component parts)

Question 11

Complete the following parts of the comparable company profiles for your "in class" case companies.

- Total debt
- Net debt
- Total debt / EBITDA
- EBITDA / Interest expense
- Total debt / Equity (book value)
- Net debt / Equity (book value)

Debt and equity drill answers

Answer 1

Interest bearing liabilities	1,112.2	770.9
Interest bearing liabilities	1,259.6	2,234.3
Total debt	2,371.8	3,005.2

Answer 2

Interest bearing liabilities	1,112.2	770.9
Interest bearing liabilities	1,259.6	2,234.3
Total debt	2,371.8	3,005.2
Cash assets	709.6	357.6
Net debt	1,662.2	2,647.6

Answer 3

Net sales	3,908.1	4,637.8
COGS	2,020.9	2,406.5
Gross profit	1,887.2	2,231.3
Selling expenses	454.2	567.4
Marketing expenses	343.8	313.5
Distribution expenses	106.6	121.8
Administration expenses	632.2	720.1
Other expenses	188.8	175.3
Earnings before interest and income tax	161.6	333.2
Depreciation	136.7	162.0
Amortization	68.2	51.4
EBITDA	366.5	546.6
Total debt	2,371.8	3,005.2
Total debt / EBITDA	6.5 x	5.5 x
EBITDA / interest expense	1.5 x	1.8 x

Answer 4

Current liabilities: debt	2,285
Long term debt	173,981
Cash	(37,304)
Net debt	138,962

Answer 5

Commercial paper	5,040
Long term debt due within one year	5,913
Obligations under capital leases due within one year	316
Long term debt	29,799
Long term obligations under capital leases	3,603
Cash and cash equivalents	(5,569)
Net debt	39,102

Answer 6

Bank overdrafts	37.7
Unsecured bank loans	205.0
Corporate bonds	539.7
Other financial liabilities – non-current	12.3
Cash and short term deposits	(56.0)
Net debt	738.7

Answer 7

Clockwork:	
Shares authorized	7,000,000
Shares issued	4,616,443
Shares outstanding	3,613,134

Answer 8

Clockwork:	
Common stock	102,000
APIC	1,998,000
Treasury stock	(775,000)

Answer 9

Beginning amount	158,475
Net income	275,743
Preferred stock dividend	16,875
Common stock dividend	24,500
Ending amount	392,843

Answer 10

The answer to your “in class” case companies will be covered in class.

Answer 11

The answer to your “in class” case companies will be covered in class.



Cash Flow Statement

Key cash flow rules

Assets and cash flow

1. Assets increase  Cash falls 
 - For example:
 - If PP&E increases, this is normally due to capital expenditure
 - Capital expenditure usually requires cash payments

2. Assets fall  Cash increases 
 - For example:
 - If receivables fall, this is normally because a customer has paid
 - A customer payment is an inflow of cash

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Liabilities & Equity and cash flow

3. L&E increase  Cash increases 
 - For example:
 - If debt increases, this is normally due to new debt being raised
 - Raising debt provides cash

4. L&E fall  Cash falls 
 - For example:
 - If payables fall, this is normally because a supplier has been paid
 - Paying a supplier causes an outflow of cash

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Rules of cash flow

Summary

- Assets have an inverse relationship with cash flow
 - They are uses of funds
- Liabilities and equity have a direct relationship with cash flow
 - They are sources of funds

Applying the cash flow rules

Understanding the cash flow statement

The cash flow statement is a mathematical reconciliation of two consecutive balance sheets

	Year 1	Year 2	Change
Cash	50	55	5
Inventories	30	20	
Net PP&E	40	45	
Debt	60	50	
Retained earnings	60	70	



What has caused cash to increase by 5?

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Understanding the cash flow statement (cont.)

The cash flow statement is a mathematical reconciliation of two consecutive balance sheets

	Year 1	Year 2	Change in cash
Cash	50	55	
Inventories	30	20	10
Net PP&E	40	45	(5)
Debt	60	50	(10)
Retained earnings	60	70	10



Matches the change
in cash between
Year 1 and Year 2

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Cash flow categories

Three cash flow categories

Operating (CFO)

- Key components:*
- Payments from customers (sales)
 - Payments to suppliers and employees
 - Interest
 - Tax

Investing (CFI)

- Key components:*
- Purchase and sale of long-term assets
 - PP&E
 - Intangibles
 - Financial assets

Financing (CFF)

- Key components:*
- Equity issuance
 - Dividends
 - Share buy-back
 - Debt issuance
 - Debt repayment

Categorising cash flows

	Year 1	Year 2	Change in cash	Category
Cash	50	55		
Inventories	30	20	10	Operating
Net PP&E	40	45	(5)	Operating & Investing
Debt	60	50	(10)	Financing
Retained earnings	60	70	10	Operating & Financing

Some cash flows must be split into components
(using BASE analysis)

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Splitting the movement of PP&E

PP&E BASE

Beginning balance		40	
Additions	Capex	??	→ 8 → CFI
Subtractions	Depreciation	(3)	→ CFO
Ending balance		45	

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Splitting the movement of retained earnings

Retained earnings BASE

Beginning balance	60	
Additions	Net income	12 → CFO
Subtractions	Dividend	?? → (2) → CFF
Ending balance	70	

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Cash flow categories

Year 2	
Net Income	12
Depreciation	3
Change in inventories	10
Cash flow from operations	25
Capital expenditure	(8)
Cash flow from investing	(8)
Change in debt	(10)
Dividends paid	(2)
Cash flow from financing	(12)
Net cash flow	5

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Completing the cash flow statement

Cash reconciliation

The net cash flow shown in the cash flow statement must be reconciled with the cash shown on balance sheet

Beginning cash	50	from balance sheet
Net cash flow for this period	5	from cash flow statement
Ending cash	55	

Must match the cash shown
on balance sheet

The complete cash flow statement

	Year 2
Net Income	12
Depreciation	3
Change in inventories	10
Cash flow from operations	25
Capital expenditure	(8)
Cash flow from investing	(8)
Change in debt	(10)
Dividends paid	(2)
Cash flow from financing	(12)
Net cash flow	5
Beginning cash balance	50
Net cash flow	5
Ending cash balance	55

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Cash flow statement drill questions

Question 1

Use the following financial statements to build a cash flow statement.

Income statement		Year 2
Sales		2,000
COGS		1,200
Depreciation		24
Gross profit		776
SG&A		234
Operating profit		542
Interest expense		7
Earnings before tax		535
Tax provision		161
Net income		374
Balance sheet	Year 1	Year 2
Cash	35	56
Accounts receivable	120	134
Inventory	98	112
Total current assets	253	302
Net PP&E	234	254
Total assets	487	556
Accounts payable	100	123
Taxes payable	32	43
Total current liabilities	132	166
Long term debt	100	140
Total liabilities	232	306
Common stock	50	50
Additional paid in capital	123	123
Retained earnings	82	77
Total equity	255	250
Total liabilities and equity	487	556

OWC calculations		

Net PP&E calculations		
B		
A		
S		
E		

Retained earnings calculations	
B	
A	
S	
E	

Question 2

Your boss has given you a part completed forecast for Joe Bloggs and has asked you to build the cash flow statement. You are presented with the following information:

Joe Bloggs Income statement projection		
	Hist.	Proj.
Revenues		
Sales	1,607.2	2,407.6
COGS	1,092.9	1,637.2
Gross profit	514.3	770.4
Expenses		
SG&A	369.7	553.7
EBITDA	144.6	216.7
Depreciation	27.0	22.2
EBIT	117.6	194.5
Interest income	1.0	0.1
Interest expense	10.0	12.1
Profit before tax	108.6	182.5
Taxes	35.3	54.7
Net income	73.3	127.8
Shareholder information		
Weighted average shares outstanding	23.9	23.9
Dividends	23.0	25.5
Earnings per share	3.07	5.35

PP&E	Hist.	Proj.
Net PP&E, beginning balance	247.5	277.9
Capital expenditures	57.4	120.4
Annual depreciation	27.0	22.2
Net PP&E, ending balance	277.9	376.1
Retained earnings		
Beginning balance	197.6	247.9
Net income	73.3	127.8
Dividends paid	23.0	25.5
Ending balance	247.9	350.2
Operating working capital		
Accounts receivable	114.8	240.8
Inventories	60.5	126.1
Total current assets excluding cash	175.3	366.9
Accounts payable	68.7	144.1
Operating working capital	106.6	222.8
Long-term debt		
Beginning amount	98.0	98.0
Issuance	0.0	14.0
Scheduled repayment	0.0	0.0
Ending amount	98.0	112.0

Capital stock at the end of the historical year was 42.0 and there are no changes expected. Cash at the end of the historical year was 3.4.

Question 3

Using the information from the previous question and answer, draft the balance sheet that will integrate with the cash flow and income statement forecast.

Question 4

Prepare a cash flow statement for Riley Scooters from the following financial statements:

Income statement for the year to 31 December XZ		
Sales		1,000
COGS		500
Depreciation		60
Gross profit		440
SG&A		150
Amortization		10
Operating profit		280
Interest expense		10
Income before tax		270
Taxes		81
Net income		189
Balance sheet	31 Dec XY	31 Dec XZ
Cash	30	50
Inventories	60	80
Accounts receivable	100	120
Other current assets	10	10
Total current assets	200	260
Net PP&E	180	160
Intangible assets	60	50
Total assets	440	470
Accounts payable	80	90
Accrued taxes	10	12
Short term debt	60	60
Total current liabilities	150	162
Long term debt	100	100
Other long term liabilities	5	8
Total liabilities	255	270
Common stock	20	20
APIC	80	80
Retained earnings	85	100
Total equity	185	200
Total liabilities and equity	440	470

Net PP&E calculations	
B	
A	
S	
E	

Intangibles calculations	
B	
A	
S	
E	

Retained earnings calculations	
B	
A	
S	
E	

Question 5

Rework your answers to the previous cash flow statement but start your operating cash flow with EBIT instead of net income.

Question 6

Derive a cash flow statement from the following income statement and balance sheet. Assume that the short-term investments are marketable securities, easily converted into cash.

Income statement for the year to 31 December XZ		
Net sales		15,000.0
Cost of goods sold		3,682.4
Depreciation		550.0
Amortization		517.6
Gross profit		10,250.0
SG&A		7,000.0
Operating profit		3,250.0
Net interest expense		100.0
Income taxes		1,240.0
Net income		1,910.0
Balance sheet		Dec XY
	Dec XY	Dec XZ
Cash	1,322.0	3,500.0
Short-term investments	221.8	300.0
Receivables	2,541.7	2,600.0
Inventories	2,389.4	2,400.0
Other current assets	995.2	1,000.0
Total current assets	7,470.1	9,800.0
Net PP&E	4,036.8	4,200.0
Investments	760.6	920.0
Intangibles	8,517.6	8,000.0
Total assets	20,785.1	22,920.0
Notes payable	75.6	290.0
Payables & accruals	3,750.3	4,023.0
Income taxes payable	510.8	600.0
Total current liabilities	4,336.7	4,913.0
Long term senior debt	6,020.6	6,910.0
Deferred taxes	3,465.7	3,750.0
Total liabilities	13,823.0	15,573.0
Common stock	2,247.8	2,560.0
Retained earnings	4,714.3	4,850.0
Less: treasury stock	(0.0)	(63.0)
Total equity	6,962.1	7,347.0
Total liabilities & equity	20,785.1	22,920.0

Question 7

Prepare a cash flow statement for Chrysler Corporation. Assume that the short term investments are illiquid.

Income statement for the year to 31 December XZ		
Net sales		59,333
Cost of goods sold		47,068
Depreciation		2,000
Selling, general & administration		5,042
Operating profit		5,223
Net interest expense / (income)		(869)
Net before taxes		6,092
Income taxes		2,372
Net income		3,720
Balance sheet	Dec XY	Dec XZ
Cash	0	100
Short term investments	5,158	6,000
Receivables	14,465	15,000
Inventories	5,195	6,000
Other current assets	1,929	2,000
Total current assets	26,747	29,100
Net PP&E	18,829	18,800
Investments	2,594	2,500
Other assets	8,014	8,000
Total assets	56,184	58,400
Revolver	0	1,180
Notes payable	3,214	4,000
Accounts payable & accruals	17,845	18,220
Long term debt – due in one year	2,998	2,500
Total current liabilities	24,057	25,900
Long term debt	7,184	7,500
Other liabilities	13,372	13,400
Total liabilities	44,613	46,800
Common stock	5,951	6,000
Retained earnings	8,829	9,000
Less: treasury stock	(3,209)	(3,400)
Total equity	11,571	11,600
Total liabilities & equity	56,184	58,400

Question 8

Rework your answer to question 7 but starting with EBITDA instead of net income.

Cash flow statement drill answers

Answer 1

Cash flow statement:	
Net income	374.0
Depreciation	24.0
(Inc) / dec in OWC	6.0
Cash from operating activities	404.0
Capex	(44.0)
Cash from investing activities	(44.0)
Change in long term debt	40.0
Dividends	(379.0)
Cash from financing activities	(339.0)
Net cash flow	21.0
Reconciliation:	
Beginning cash from BS	35.0
Net cash flow	21.0
Ending cash from BS	56.0

OWC calculations:		
Receivables	120.0	134.0
Inventories	98.0	112.0
Accounts payable	(100.0)	(123.0)
Taxes payable	(32.0)	(43.0)
OWC	86.0	80.0

Net PP&E calculations:		
Beginning amount		234.0
Capital expenditure		44.0
Depreciation		(24.0)
Ending amount		254.0

Retained earnings calculations:		
Beginning amount		82.0
Net income		374.0
Dividends		(379.0)
Ending amount		77.0

Answer 2

Joe Bloggs Cash flow statement projection	
Net income	127.8
Depreciation	22.2
(Increase in operating working capital)	(116.2)
Total cash from operations	33.8
(Capital expenditure)	(120.4)
Total cash from investing	(120.4)
Increase / (decrease) in LTD	14.0
Increase / (decrease) in common stock	0.0
(Dividends)	(25.5)
Total cash from financing	(11.5)
Total net change in cash	(98.1)
How did cash change?	
Beginning cash	3.4
Change in cash from CFS	(98.1)
Revolver balance at end of year	(94.7)

Answer 3

Joe Bloggs Balance sheet projection	
Current assets	
Cash	0.0
Accounts receivable	240.8
Inventories	126.1
Total current assets	366.9
Net PP&E	376.1
Total assets	743.0
Revolver	94.7
Accounts payable	144.1
Total current liabilities	238.8
Total long-term debt	112.0
Total liabilities	350.8
Common stock	42.0
Retained earnings	350.2
Total equity	392.2
Total liabilities & equity	743.0

Answer 4

Cash flow statement for the year to 31 December XZ	
Net income	189
Depreciation	60
Amortization	10
Inc / (dec) in other long term liabilities	3
(Inc) / dec in OWC	(28)
Cash from operating activities	234
Capex	(40)
Cash from investing activities	(40)
Dividends	(174)
Cash from financing activities	(174)
Net cash flow	20
Reconciliation:	
Beginning cash from balance sheet	30
Net cash flow	20
Ending cash from balance sheet	50

OWC calculations:		
Receivables	100	120
Inventories	60	80
Other current assets	10	10
Accounts payable	(80)	(90)
Accrued taxes	(10)	(12)
OWC	80	108

Net PP&E calculations:		
Beginning amount	180	
Capital expenditure		40
Depreciation		(60)
Ending amount		160

Intangibles calculations:		
Beginning amount	60	
Additions		0
Amortization		(10)
Ending amount		50

Retained earnings calculations:		
Beginning amount	85	
Net income		189
Dividends		(174)
Ending amount		100

Answer 5

EBIT cash flow statement (quick and dirty version):	
EBIT	280
Depreciation	60
Amortization	10
Interest expense	(10)
Tax expense	(81)
Inc / (dec) in other long term liabilities	3
(Inc) / dec in OWC	(28)
Cash from operating activities	234
Capex	(40)
Cash from investing activities	(40)
Dividends	(174)
Cash from financing activities	(174)
Net cash flow	20
Reconciliation:	
Beginning cash from balance sheet	30
Net cash flow	20
Ending cash from balance sheet	50

This is a quick and dirty version because strictly speaking the taxes should be taxes paid and not tax expense. To resolve the problem we must do two things:

- Remove taxes payable from OWC
- Do a taxes payable BASE in order to derive taxes paid

Reworked OWC calculations:		
Receivables	100	120
Inventories	60	80
Other current assets	10	10
Accounts payable	(80)	(90)
OWC	90	120

Taxes payable calculations:		
Beginning amount		10
Tax expense		81
Taxes paid (the plug)		(79)
Ending amount		12

Now the CFS looks like this:

EBIT cash flow statement:	
EBIT	280
Depreciation	60
Amortization	10
Interest expense	(10)
Tax paid	(79)
Inc / (dec) in other LT liabilities	3
(Inc) / dec in OWC	(30)
Cash from operating activities	234
Capex	(40)
Cash from investing activities	(40)
Dividends	(174)
Cash from financing activities	(174)
Net cash flow	20
Reconciliation:	
Beginning cash from balance sheet	30
Net cash flow	20
Ending cash from balance sheet	50

Answer 6

Cash flow statement:	
Net income	1,910.00
Depreciation	550.0
Amortization	517.6
Change in OWC	288.2
Change in deferred taxes	284.30
Operating cash flows	3,550.10
Capex	(713.2)
Change in investments	(159.4)
Investing cash flows	(872.6)
Change in notes payable	214.4
Change in long term debt	889.40
Change in common stock	312.20
Shares repurchased	(63.0)
Dividends paid	(1,774.3)
Financing cash flows	(421.3)
Net cash flows	2,256.2
Beginning cash	1,543.8
(0 + 1,322 + 221.8)	
Ending cash	3,800.0
(2,000 + 1,500 + 300)	

OWC calculations:		
Receivables	2,541.7	2600.0
Inventories	2,389.4	2400.0
Other current assets	995.2	1000.0
Payables & accruals	3,750.3	4023.0
Income taxes payable	510.8	600.0
OWC	1,665.2	1377.0

Net PP&E calculations:		
Beginning amount		4036.8
Capital expenditure		713.2
Depreciation		(550.0)
Ending amount		4200.0

Intangibles calculations:		
Beginning amount		8,517.60
Additions		0.0
Amortization		(517.6)
Ending amount		8,000.00

Retained earnings calculations:		
Beginning amount		4,714.30
Net income		1,910.00
Dividends		(1,774.30)
Ending amount		4,850.00

Answer 7

Net income	3,720.0
Depreciation	2,000.0
Change in OWC	(1,036.0)
Change in other long term assets	14.0
Change in other long term liabilities	28.0
Operating cash flow	4,726.0
Capex	(1,971.0)
Change in short term investments	(842.0)
Change in investments	94.0
Investing cash flows	(2,719.0)
Change in notes payable	786.0
Change in long term debt	(182.0)
Change in common stock	49.0
Shares repurchased	(191.0)
Dividends paid	(3,549.0)
Financing cash flows	(3,087.0)
Net cash flow	(1,080.0)
Beginning cash & cash equivalents	0.0
(0 - 0) *	
+ Net cash flow	(1,080.0)
Ending cash & cash equivalents	(1,080.0)
(100 - 1,180) *	

* The revolver has been treated as "negative cash" but it could also have been treated as "debt". If this were done, the change in revolver would have a line in the financing section of the cash flow statement and the cash and cash equivalents would be defined simply as "cash".

OWC calculations:		
Receivables	14,465.0	15,000.0
Inventories	5,195.0	6,000.0
Other current assets	1,929.0	2,000.0
Payables & accruals	17,845.0	18,220.0
OWC	3,744.0	4,780.0

Net PP&E calculations:		
Beginning amount	18,829.0	
Capital expenditure	1,971.0	
Depreciation	(2,000.0)	
Ending amount	18,800.0	

Retained earnings calculations:		
Beginning amount	8,829.0	
Net income	3,720.0	
Dividends	(3,549.0)	
Ending amount	9,000.0	

Answer 8

EBITDA	7,223.0
Interest income	869.0
Income taxes	(2,372.0)
Change in OWC	(1,036.0)
Change in other long term assets	14.0
Change in other long term liabilities	28.0
Operating cash flow	4,726.0
Capex	(1,971.0)
Change in short term investments	(842.0)
Change in investments	94.0
Investing cash flows	(2,719.0)
Change in notes payable	786.0
Change in long term debt	(182.0)
Change in common stock	49.0
Shares repurchased	(191.0)
Dividends paid	(3,549.0)
Financing cash flows	(3,087.0)
Net cash flow	(1,080.0)
Beginning cash & cash equivalents	0.0
(0 - 0) *	
+ Net cash flow	(1,080.0)
Ending cash & cash equivalents	(1,080.0)
(100 - 1,180) *	

* The revolver has been treated as "negative cash" but it could also have been treated as "debt". If this were done, the change in revolver would have a line in the financing section of the cash flow statement and the cash and cash equivalents would be defined simply as "cash".