THE UNIVERSITY OF QUEENSLAND
AUSTRALIA
CREATE CHANGE

FINM3412 – TUTORIAL 4

FINANCIAL STATEMENT AND MODELLING

Advanced Investments and Portfolio Management

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Overview

What are the three main financial statements?

- **Income statement**
  - Reports the company's revenues and expenses for a given time period
  - Bottom line net income
- **Balance sheet**
  - Reports the company's assets, liabilities, and equity at a given point in time
- **Cash flow statement**
  - Reconciliation of year on year changes in the balance sheet
  - Identifies non-cash income and expenses to go from net income to net change in cash
  - *This net change in cash is added to last year's ending cash balance to get this year's ending cash balance in the balance sheet*

Forecasting the Income Statement

Going from top line revenues to net income

- Now that we've forecasted revenue, we must forecast the expenses to arrive at net income for each period
- Look at historical margins to form an initial idea of what drives costs
  - If a stable trend is apparent, use this margin going forward
  - If not, find explicit drivers for the particular line item (e.g. employee benefits driven by # of FTEs)
- Do **not** make assumptions about statutory losses (e.g. impairments) unless explicitly stated by management

Forecasting the Income Statement

Key sections of an income statement

Line item	How to forecast
Revenue	Macroeconomic or internal factors
Less: Operating expenses	% margin of totals costs/other cost base
EBITDA	n/a
Less: D&A	Forecast using a supporting schedule
EBIT	n/a
Less: Net interest expense	Determine cost of debt and interest received on cash (need cash balance for this to work)
Less: Earnings before tax	n/a
Less: Tax expense	Use historical effective tax rate where appropriate or 30% corporate rate
Net income	n/a

Income Statement

Super Retail Group case study

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

For the period ended 26 June 2021

	Notes	2021 $m	2020 $m
CONTINUING OPERATIONS			
Revenue from continuing operations		**3,453.1**	2,825.2
Other income from continuing operations		**0.4**	0.2
Total revenues and other income	5	**3,453.5**	2,825.4
Expenses			
Cost of sales of goods		**(1,797.2)**	(1,555.1)
Other expenses from ordinary activities			
- selling and distribution		**(438.7)**	(371.2)
- marketing		**(102.5)**	(79.1)
- occupancy		**(213.3)**	(204.9)
- administration		**(433.0)**	(403.6)
Net finance costs	6	**(41.0)**	(55.1)
Share of net loss of associates and joint ventures	6	**(0.2)**	(0.6)
Total expenses		**(3,025.9)**	(2,669.6)
Profit before income tax		**427.6**	155.8
Income tax expense	14	**(126.6)**	(45.6)
Profit for the period		**301.0**	110.2
Profit for the period is attributable to:			
Owners of Super Retail Group Limited		**301.0**	110.2

Revenues

Operating expenses

Net interest expense

Net income

D&A

Tip!

Often D&A will be included within the expenses section but not listed out explicitly. You will need to **refer to the notes** for these figures and to calculate EBIT, EBITDA, etc.

A good tip for these common metrics is to look in the **results presentations**

Income Statement

Super Retail Group case study

Fiscal year	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2021A
Fiscal year end date	Jun-14	Jun-15	Jun-16	Jun-17	Jun-18	Jun-19	Jun-20	Jun-21
INCOME STATEMENT								
Revenues from Continuing Operations	2,090	2,239	2,422	2,466	2,570	2,710	2,825	3,453
Other Income	12	3	2	1	9	3	0	0
Total Revenues	**2,102**	**2,241**	**2,424**	**2,467**	**2,579**	**2,713**	**2,825**	**3,454**
Expenses								
Cost of Goods Sold	(1,156)	(1,273)	(1,372)	(1,365)	(1,416)	(1,488)	(1,555)	(1,797)
Occupancy Expense	(171)	(186)	(216)	(195)	(213)	(216)	(205)	(213)
Marketing	(85)	(82)	(87)	(84)	(84)	(82)	(79)	(103)
Selling, Distribution & Marketing Expenses	(272)	(290)	(314)	(323)	(332)	(348)	(371)	(439)
Administration Expenses	(231)	(256)	(328)	(344)	(339)	(366)	(404)	(433)
Other Expenses	(1)	-	-	-	(1)	(3)	(1)	(0)
EBIT	**186**	**154**	**107**	**158**	**194**	**211**	**211**	**469**
Net Finance Costs	(24)	(22)	(19)	(17)	(18)	(21)	(55)	(41)
Earnings before Taxes	**162**	**132**	**88**	**141**	**176**	**190**	**156**	**428**
Provision for Income Tax	(50)	(39)	(30)	(40)	(49)	(50)	(46)	(127)
Earnings of Discontinued Operations	(4)	(16)	-	-	-	-	-	-
Net Income (Loss)	**108**	**81**	**63**	**102**	**128**	**139**	**110**	**301**

Forecasting the Balance Sheet

Key sections of a balance sheet

- We can simplify the balance sheet to the most common line items by aggregating uncommon line items
- Use the techniques learned in class to forecast each line item
  - Use supporting schedules to help keep track of changes
- Supporting schedules are helpful for forecasting ending balances, allowing us to back out the change as the difference between beginning and ending balances
  - Ending balances are forecasted either with a turn ratio, margins, or another appropriate method (so long as it holds historically)
- **Do NOT explicitly forecast the cash balance**

Balance Sheet

Super retail group case study

CONSOLIDATED BALANCE SHEET

As at 26 June 2021

	Notes	2021 $m	2020 $m
ASSETS			
Current assets			
Cash and cash equivalents		**242.3**	285.1
Trade and other receivables	7	**38.4**	26.3
Inventories	8	**696.4**	502.4
Derivative financial instruments	16	**3.6**	-
Total current assets		**980.7**	813.8
Non-current assets			
Property, plant and equipment	9	**219.9**	227.8
Intangible assets	10	**866.9**	874.3
Right-of-use assets	11	**894.3**	848.0
Deferred tax assets	14	**4.7**	4.9
Other financial assets	24(b)	**6.1**	6.3
Total non-current assets		**1,991.9**	1,961.3
Total assets		**2,972.6**	2,775.1

LIABILITIES			
Current liabilities			
Trade and other payables	12	**563.4**	442.3
Lease liabilities	11	**193.9**	178.4
Current tax liabilities	14	**69.5**	17.1
Provisions	15	**97.0**	111.1
Derivative financial instruments	16	**-**	1.9
Total current liabilities		**923.8**	750.8
Non-current liabilities			
Borrowings	13	**-**	247.8
Lease liabilities	11	**795.7**	760.9
Provisions	15	**26.6**	24.3
Total non-current liabilities		**822.3**	1,033.0
Total liabilities		**1,746.1**	1,783.8
NET ASSETS		**1,226.5**	991.3
EQUITY			
Contributed equity	18	**740.7**	698.1
Reserves	19	**17.6**	7.5
Retained earnings	19	**468.2**	285.7
TOTAL EQUITY		**1,226.5**	991.3

Balance Sheet

Super Retail Group case study

Fiscal year	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2021A
Fiscal year end date	Jun-14	Jun-15	Jun-16	Jun-17	Jun-18	Jun-19	Jun-20	Jun-21
BALANCE SHEET								
Assets								
Cash and cash equivalents	24	13	16	20	15	8	285	242
Trade and other receivables	35	23	18	19	17	32	18	25
Inventories	490	506	502	482	546	560	502	696
Property, plant and equipment	198	224	237	265	270	268	1,076	1,114
Intangible assets	813	801	772	750	892	894	874	867
Other assets	15	16	25	23	23	17	19	28
Total assets	1,575	1,583	1,570	1,559	1,763	1,779	2,775	2,973
Liabilities								
Trade and other payables	239	233	219	235	360	373	456	607
Borrowings	404	394	419	391	430	393	248	0
Leases	5	3	1	11	10	7	939	990
Other liabilities	167	189	197	167	188	190	141	150
Total liabilities	814	818	836	804	987	963	1,784	1,746
Net assets	1,575	1,583	1,570	1,559	1,763	1,779	2,775	2,973
Equity								
Contributed equity	542	542	542	542	542	542	698	741
Reserves	7.7	13.2	-0.9	3.5	10	8	8	18
Retained earnings	210.4	212.8	194	211	223	266	286	468.2
Total equity	760	768	735	757	776	816	991	1,227

Supporting Schedules

Inventories and PPE examples

Payables / Receivables
Beginning
Increase/decrease
Ending

Average days outstanding of beginning and end balances

Payables / receivables turnover ratio

Inventories
Beginning
Increase/decrease
Ending

Inventories as % of cost of sales capex

Inventory turnover ratio

PPE
Beginning
Plus: Capex
Plus: Acquisitions/(disposals)
Less: Depreciation[1]
Ending

Sustaining capex[2]

Expansionary capex[3]

Total capex[4]

[1] Can be forecasted as a % of total capex
[2] Sustaining capex equal to depreciation unless management guidance says otherwise
[3] Expansionary capex as per management guidance (explicit or implicit)
[4] Total capex as a historical % of revenue

Forecasting the Balance Sheet

Key asset line items of a balance sheet

Line item	How to forecast
Cash and cash equivalents	Reference from cash flow statement
Accounts receivable	Use turnover ratios (days sales outstanding = AR as % sales/365)
Inventories	Inventory turnover rate (inventory as % COGS/365)
PPE	Forecast using a supporting schedule
Intangible assets	Forecast using a supporting schedule
Other assets	Straight line unless there is an obvious driver

Forecasting the Balance Sheet

Key liability line items of a balance sheet

Line item	How to forecast
Accounts payable	Use turnover ratios (days payables outstanding = AP as % sales/365)
Borrowings	Try and hold capital structure constant unless stated otherwise
Contributed equity	Include any share issuances as well as share based compensation
Reserves	Straight line unless stated otherwise
Retained earnings	Net income after dividends

Working Capital

- It is very important to understand working capital movements. Why?
  - Gives insight into the operating dynamics of a business (when compared against other companies in a sector) – i.e. efficiency, funding requirements, where cash is being generated/used
  - Has a cash flow impact which will affect valuation – DCF, debt pay-downs

Working Capital	=	Inventories	+	Accounts Receivable	-	Accounts Payable	±	Other ST assets/liabilities

Working Capital

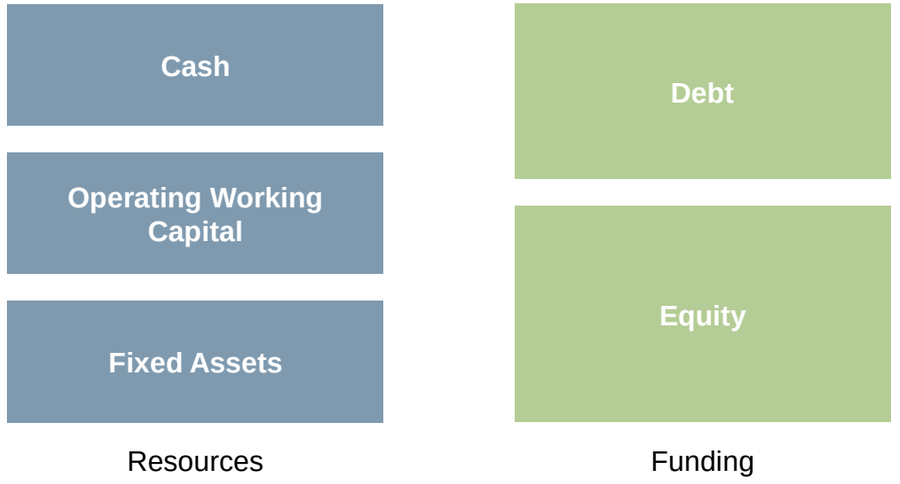
How to calculate operating working capital (OWC)

- Net Working Capital (NWC) = Short term operational assets – short term operational liabilities
- Best to calculate using only inventories, A/R, and A/P (“pure” OWC)
- More efficient (from a cash impact perspective) and ok to also include other short-term operating assets and liabilities
  - Deferred income taxes, other current assets, DTA and DTL, prepaid expenses. These are all used in managing a company’s short term funding
  - NWC balances (negative/positive) will vary by industry

Working Capital

Positive NWC requires funding

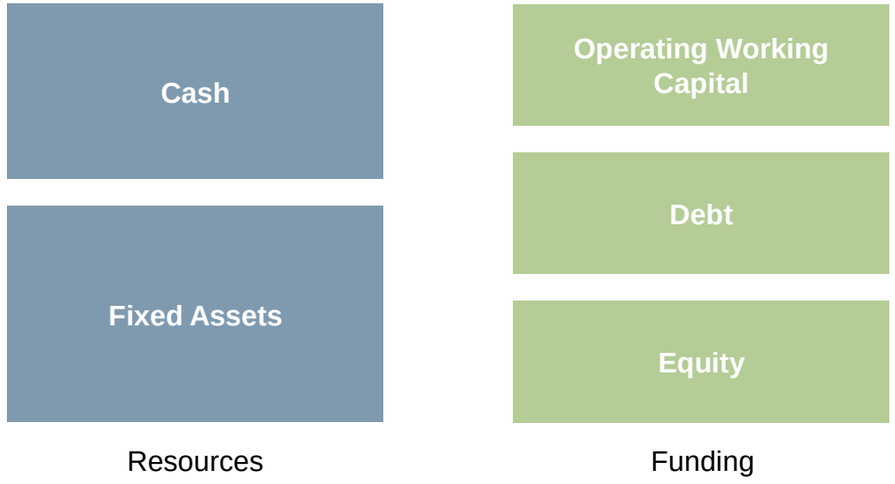
- If NWC is positive, the company has more receivables than payables – effectively a net asset that requires funding
  - Intuitively, there is more cash tied up in receivables so require interim financing for this shortfall



Working Capital

Negative NWC provides funding

- If NWC is negative, the company has more payables or short-term liabilities than receivables (or short-term assets) – effectively a net source of funds
  - Intuitively, the company has a “free” source of funding from the lag in when they need to settle their payments



Cash Flow Statement

Reconciling net change in cash from net income

- The cash flow statement accounts for all changes in the balance sheet to report net change in cash for the period
  - It is a function of both the income statement and balance sheet
  - The balance sheet balances by determining the change in cash (which is the balancing item)
- The cash flow statement is broken up into three sections:
  - Operating activities (e.g. NWC, net income)
  - Investing activities (e.g. Capex on PPE and intangibles)
  - Financing activities (e.g. Distributions)
- Net change in cash is the sum of the above three sections

Cash Flow Statement

Understanding what constitutes a source/use of cash

- The term “asset” in cash flow analysis refers to assets other than cash
- Two rules of thumb:
  - Assets are uses of cash
    - To buy assets, cash must be spent. As a result, changes in assets have an inverse relationship with changes in cash (if assets go up, cash goes down)
  - Liabilities and equity are sources of cash
    - If liabilities and/or equity increase, it is because debt holders or equity holders have provided funding (cash) to the entity. L & E have a direct relationship with cash (if L and/or E goes up, cash goes up)
- These concepts are a reflection of the fundamental A = L + E equation where cash is the offsetting item for each movement (i.e. L + E increases, A (cash) increases; A decreases, A (cash) increases to offset)

Cash Flow Statement

Preparing a cash flow statement – 4 rules

1. If assets rise, cash falls
   - Intuitively, if assets rise, the company must have purchased more assets which implies a cash outflow (e.g. capex)
2. If assets fall, cash rises
   - Intuitively, if assets fall we must have sold an asset which would result in a cash inflow
3. If liabilities and/or equity rise, cash rises
   - Intuitively, if L or E rises, equity holders or debt holders are contributing more capital to the firm (supplying more cash). This may need to be paid back later, but initially it is a cash inflow
4. If liabilities or equity fall, cash falls
   - Intuitively, if L or E falls, the firm has most likely repaid debt or repaid equity (via dividends or buy-backs). These payments would be made in cash – a cash outflow

Cash Flow Statement

The cash flow impact of NWC

- The intuition behind NWC cash impacts are the same for that of all assets and liabilities
- Since NWC = Operating assets – operating liabilities, NWC is effectively a net asset
- The result:
  - Increases in NWC relate to a cash outflow
  - Decreases in NWC relate to a cash inflow

Cash Flow Statement

NWC cash impact – Intuitive examples

Example 1: Year 1 NWC is 200 and Year 2 NWC is 250

- Increase in NWC translates to a decrease in cash flow (50)
- Intuition: If NWC is increasing, indicates more cash is being tied up in receivables and less coming into the business

Example 2: Year 1 NWC is 550 and Year 2 NWC is 535

- Decrease in NWC translates to an increase in cash flow
- Intuition: Movement indicates that receivables have decreased relative to payables, releasing cash into the business

Example 3: Year 1 NWC is (720) and Year 2 NWC is (680)

- Increase in NWC translates to a decrease in cash flow
- Intuition same as example 1. Less free funding is provided from payables or more cash tied up in A/R requiring us to contribute more of our own cash to fund the operating activities

Example 4: Year 1 NWC is (440) and Year 2 NWC is (540)

- Decrease in NWC translates to an increase in cash flow
- Intuition same as example 2. More free funding is being provided by payables and/or less tied up in receivables – more cash flowing into the business to fund operating activities

Cash Flow Statement

Reconciling net change in cash from net income

Net income
Plus: D&A/share based compensation/non-cash expenses
Less: Net change in working capital
Less/(plus): Net change in other assets/(liabilities)
Cash flow from operating activities
Less: Capex/acquisitions
Less: Purchases of intangibles
Cash flow from investing activities
Plus/(less): Increase in borrowings/(repayments)
Plus/(less): Equity issuances/(buybacks)
Less: Dividends paid
Plus: Net change in reserves
Cash flow from financing activities
Net cash flow

Tutorial Task 3 Assessment

Assignment weighting 3%

1. Forecast the income statement, create the cash flow statement and balance the model
2. Explain each step and its rationale in your own words (relate to theory)
3. The balance check in the model must equal zero (do not hard code)

Submission via Turnitin link by given due date.