ACCT7106 – Session #6: Reformulating the Financial Statements

PART 1 – Background

overarching objective:

to conduct fundamental va **imating the 'intrinsic value' of a firm's common shares**

➞ requires an understanding of the firm's 'valu

➡ need to accumulate a 'tool kit' as the basis for developing the *pro forma Financial Statements*

$\Rightarrow$ ***projected*** $\left\{ \begin{array}{c} \text{Balance Sheet (B/S)} \\ \text{Income Statement (I/S)} \\ \text{Statement of Cash Flows (SCF)} \end{array} \right\}$ over the forecast horizon

➡ core inputs ➞ x g

Sessions #3 → #9

STEP 1
Understanding the past

1. Information collection
2. Understanding the business
3. Accounting analysis
4. Financial ratio analysis
5. Cash flow analysis

STEP 2
Forecasting the future

1. Structured forecasting

STEP 3
Valuation

1. Cost of capital
2. Valuation models – *AE, FCF, D*
3. Valuation ratios
4. Complications
   a. Negative values
   b. Value creation and destruction

Figure 1.1 Lundholm & Sloan, *Framework for Equity Valuation*

Stages of the Analysis

Stage 1 – Understanding the Business

→ 'Strategy Analysis'

- product market
- competition
- regulatory constraints
- business strategies
- technology

Stage 2 – Analysing Information

Accounting Analysis & Financial Analysis

- quality of accounting information
- reformulating the F/S to uncover business activities
- ratio and cash flow analysis

Stage 3 – Prospective Analysis: Forecasting

⇨ *pro-forma*
- Income Statement
- Balance Sheet
- Statement of Cash Flows

Stage 4 – Prospective Analysis: Valuation

- Abnormal Earnings Model
- Alternative Valuation Models

tatement of Cash Flows

Stage 5 – Prospective Analysis: Application

→ investment decision

investor – decision to buy, hold, sell

manager – decision to adopt strategy or not

external environment

- economic prospects
- macroeconomic factors
- socio-cultural forces
- political / regulatory

Analysis of Financial Statements

- understanding current F/S
- re-formulating the F/S
- accounting quality

- analysts' reports
- management forecasts
- financial press
- ???

Industry dynamics

→ Porter's five forces

(suppliers, buyers, new entrants, substitutes, rivalry)

- Financial Statements – AASB 101:
  - Balance Sheet
  - Income Statement *and/or* Statement of Comprehensive Income
  - Statement of Changes in Equity
  - Statement of Cash Flows
  - Notes to the financial statements

- building blocks → definitio

- accounting principles → AASB / IFRS rules ounting decisions/choices

- recognition (item to F/S) *versus* disclosure (notes)

'articulation' → Financial Statements constitute an ***'integrated system'***

beginning stock → *flows* → *ending stock*

Beginning Balance Sheet

Cash

+ Other assets

= Total Assets

– Liabilities

= Shareholders' Equity (BV_{t-1})

Cash Flow Statement

Cash from operations

± Cash from investing

± Cash from financing

= Net change in cash

Statement of Changes in S/E

+ Net Income & O

= Net Change in S/E

Income Statement

Revenue

– Expenses

= Net Income (NPAT)

Ending Balance Sheet

Cash

+ Other assets

= Total Assets

– Liabilities

= Shareholders' Equity (BV_t)

pro forma Income Statement

	2019	2020	2021E	2022E	2023E
Sales	**38,176**	**37,408**	**± ?**	**± ?**	**± ?**
Other operating revenue	288	376			
Cost of sales	**(29,253)**	**(28,043)**	**± ?**	**± ?**	**± ?**
Other income	428	108			
Administrative expenses			**± ?**	**± ?**	**± ?**
Other expenses					
Share – equity investments	5	(			
Financing costs	**(42)**	**(443)**	**± ?**	**± ?**	**± ?**
Income tax expense	**(347)**	**(341)**	**± ?**	**± ?**	**± ?**

caution – for 'clean surplus' and consistent estimates, the accounting system must reconcile

⇨ '***articulation***': must concurrently develop the *pro forma* B/S and SCF

PART 2 – Reformulation Preliminaries

- **Objectives:**
  - separate **operating** activities from **financing** activities
  - fix-up some accounting classifications (relatively few)
  - for the Income Statement, xpenses based on their *driver* (sales volume or other), and whether they g or non-recurring

- separation of a company's **operations** from how those operations are **financed**
  - *Operations*: buying and selling goods and services
  - *Financing*: the company's use of debt and equity to finance its operations, as well as the company's investment in financial assets

- *Why* separate the two?
  - industrial companies generate value from tions, not from their financial activities

  - financial activities can hide a company's true operating performance

→ notion of ***'levered'*** versus ***'unlevered'***

Levered ➡ measured **after** the effects of financial activities

➞ reflect the company's operations <u>and</u> the effects of financial activities

→ levered metrics capture the shareholders' perspective

Unlevered ➡ measured **before** the effects of financial activities

➞ reflect purely the compa

→ unlevered metrics capture the combi lder/shareholder perspective

In general: **Unlevered metrics = Levered metrics + Effects of financing**

note – this disaggregation can be applied at the overall firm level, as well as individually with the B/S, I/S, and SCF

levered *
→ firm after financing charges
→ to only common shareholders

unlevered *
→ firm before financing charges
→ to debt + equity

* need to adjust both for tax

applied to valuation

market value of net operating assets	=	market value of equity	+	market value of net financial obligations

□	market value of equity	=	market value of net operating assets	–	market value of net financial obligations

‘market value of NOA’ is often ca value (EV)

- the market value of the company’s operati
- *‘unlevered’* because it measures the value and net debt together

‘market value of equity’ is also called the market capitalisation (market cap)

- *‘levered’* because it measures the value of the company after removing the value of net debt (financing activities)

‘market value of NFO’ represents the company’s financing activities

	Balance Sheet (Book Value)	Income Statement	Our Valuation	Market Valuation
Operating activities	NOA	OI (after-tax)	V_F	MV_F
Debt financing	NFO/NFA	NFE (after-tax)	V_D	MV_D
Equity financing	CSE	CI	V_E	MV_E

NOA = CSE + NFO	OI = CI + NFE	$V_F = V_E + V_D$	$MV_F = MV_E + MV_D$
CSE = NOA - NFO	CI = OI - NFE	$V_E = V_F - V_D$	$MV_E = MV_F - MV_D$

PART 3 – Balance Sheet Reformulation

accounting equation

Assets

Operating Assets (OA)

Financial Assets (FA)

=

ati ties (OL)

Liabilities

Financial Obligations (FL)

+

Shareholders' Equity

Assets (A) = Liabilities (L) + Shareholders' Equity (S/E)

[OA + FA] = [OL + FO] + S/E

□

reformulating → (OA – OL) = (FO – FA) + S/E

net operating assets	=	net financi s	+	Shareholders' Equity
(OA – OL)		(FO – FA)		S/E

AASB / IFRS Balance Sheet

Assets			**Liabilities & Equity**	
Operating Assets	OA		Operating Liabilities	OL
Financial Assets	FA		Financial Obligations	FO
			Shareholders' Equity	S/E
Total Assets	OA + FA		**Total Claims**	OL + FO + S/E

Reformulated B t

Net Operating Assets			**Financial Obligations & Shareholder's Equity**	
Operating Assets	OA		Financial Obligations	FO
Operating Liabilities	OL		Financial Assets	(FA)
			Net Financial Obligations	NFO
			Shareholders' Equity	S/E
Total	OA – OL		**Total**	NFO + S/E

Step #1 – Operating Assets (OA) *versus* Financial Assets (FA)

- *Operating Assets (OA)* – essentially assets used in selling goods and services (the company's business)
- *Financial Assets (FA)* – essentially assets used to invest excess cash (i.e. financial investments not tied to the company's business)

Aside: there is an active debate in the best to achieve this separation (e.g., Barker, 2010, *Accounting and Busine*untants have not adopted this structure for IFRS reporting!

There are two broad things to consider (Barker,

- **nature** of the item itself e.g., p,p&e is inherently operational (physical assets that are used in production) compared to an investment in government bonds
- **function** of the item in the company's operations e.g., a retail company does not generate profits from trading financial securities, but a hedge fund does → investments in financial securities are likely a FA for a retail company, but an OA for a hedge fund

Typical Operating Assets (OA):

- *Operating cash* (see later slide)
- *Accounts Receivable*: almost always an OA, but check that is isn't a hidden loan to another company
- *Inventory*: almost always an OA
- *Prepaid expenses*: check w ly an OA
- *Goodwill*: almost always an
- *Equity-accounted investments* (e.g., invest ciates/JVs): usually an OA, but check nature of the investment to ensure it is related to the company's operations
- *Property, plant & equivalent* (p,p&e): almost always OA
- *Intangibles*: almost always OA
- *Deferred tax assets*: treat this as an OA in this course

Typical indicators of Financial Assets (FA) (none are decisive on their own):

- the item is financial nature, such as investments in debt/equity securities
- typically measured at fair value e.g., investments in debt or equity
- typically earn interest or dividends for the company
- the asset is not integrated into the company's operations (could be sold without disrupting anything) and/or the company is not expected to generate value above ordinary investment returns

Typical Financial Assets (FA):

- financial cash (see later slide)
- short-term investments
- investments in debt or equities securities (without control/significant influence e.g., an investment in another company's bonds or a small <20% equity stake in another company)

note – there is sometimes room for disagreement about what constitutes a OA and FA for a particular company. Use your judgement where there is doubt, but make sure you can justify your decision

aside:

- in the Balance Sheet, assets and liabilities are classified into current and non-current – this distinction does not pla ed Balance Sheet; rather, similar current and non-current ac ther (e.g., short-term and long-term bank loans)

'common' problem areas –

- cash & cash equivalents
- investment properties
- 'other assets'

❑ Cash & Cash Equivalents

- most businesses need some cash to operate i.e., to meet day-to-day cash flows (transaction motive) ➝ 'working cash' ➔ 'operating cash' ≡ OA
- *however*, many businesses maintain much larger cash balances than they need for daily operations ➔ 'financial cash' ≡ FA

- separating operating cash (O is a matter of **judgement**

- things to consider:
  - competitor cash balances
  - the company's historical cash balances
  - nature of the company's operations

- a classic approach (used by the textbook and often in practice) is to ***assume*** operating cash is some percentage of sales (e.g., 0.5% of sales)

- *Investment Properties*
  - for most companies, land and buildings will be an OA i.e., the company uses them in its operations (perhaps a factory)
  - *however*, some/all of a company’s land and buildings can be FA in the following circumstances:
    - the land and buildings are clearly excessive to the company’s needs
    - they are rented/leased
    - they are accounted for using ‘AASB 14 t Property’ (note - investment properties can be carried at fair value

- *‘Other assets’*
  - check the notes for details about what ‘Other assets’ means (if provided)
    - if the company provides a break-down, classify each component as OA or FA depending upon details
    - if the company provides no information, usually it is safe to assume they are OA

***re*: Coles**

Assignment Project Exam Help

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→ OA / FA (0.5%)

→ OA (after checking note)

→ OA (after checking note)

→ FA

→ OA (after checking note)

→ OA (after checking note)

	NOTES	28 JUNE 2020 $M	30 JUNE 2019 $M	
Non-current assets				
Property, plant and equipment				OA (after checking note)
Right-of-use assets				OA (after checking note)
Intangible assets				OA (after checking note)
Deferred tax assets				OA (after checking note)
Equity accounted investments				OA (after checking note)
Other assets				OA (after checking note)
Total non-current assets				

PART 4 – Reformulating the Balance Sheet (cont)

Step #2 **– Operating Liabilities (OL)** *versus* **Financial Obligations (FO)**

- *Operating Liabilities (OL)* – liabilities associated with selling goods and services (i.e. the company's business

- *Financial Obligations (FO)* – sources of financing other than CSE (basically debt)

Typical indicators of Financial Obligations (FO):

- the company pays interest on them and has an obligation to repay
- most are measured at amortised cost (or rarely fair value)
- the liability is not integrated with the company's operations, e.g. an industrial company could switch a bank loan for a bond without much disruption, but couldn't easily separate its provision for warranty expenses from its operations

- Typical Operating Liabilities (OL):
  - Accounts Payable: almost always an OL (but if the company has to pay interest, you should investigate whether it is a hidden FO)
  - Accrued Expenses: almost always an OL
  - Provisions: almost always a OL, but check the notes
  - Deferred revenue
  - Deferred tax liabilities: tre rse
  - Income tax payable

- Typical Financial Obligations (FO):
  - Interest-bearing liabilities/loans
  - Lease obligations
  - Notes/bonds (in liabilities)
  - Preference shares and other hybrid securities

- Dividends payable is sometimes classified into Current Liabilities
  - this make no sense from a shareholder perspective – can't owe ourselves money!
  - why do accountants recognise dividends payables in current liabilities?
  - we will instead treat Dividends payable as part of CSE

- Preference shares (or preferr ssified as part of Equity
  - preference shares are usually a type of hy that does not neatly fit the definition of Liability or Equity
  - from the common shareholder perspective, *preference* shares should be classified as a FO and dividends on preference shares should be classified as a financial expense

❑ Derivative Securities

- ‘derivative financial assets’ and ‘derivative financial liabilities’ basically represent unrealised gains/losses on derivative contracts

- *conceptually*, classification should depend on why the company uses the derivative – to illustrate,
  - if it is an interest rate swap used to hedge interest rate risk related to a loan, then the derivative asset/li /FO
  - if it is forward contrac risk on the purchase of an operating asset, then the derivative a should be an OA/OL

- given the challenges in specifically confirming each contract, we will treat ‘derivative financial assets’ as FA and ‘derivative financial liabilities’ as FO

❑ Leases

- leases appear on both the asset and liabilities side of the Balance Sheet
- historically came in two varieties:

  Operating leases: basically rental agreements

  the company does <u>not</u> recognise the leased asset or the associated liability on the Balance Sheet; but recognised an 'operating lease expense' on the Income Statement

  Finance/capital leases: basically a loan to buy an asset

  the company recognises the he Balance Sheet; and associated depreciation and interes tatement

- under the new AASB 16, operating leases y disappear and all leases will be recognised as finance leases

$\Rightarrow$ treat financial lease assets as OA and lease obligations as FO

treat lease interest as a financial expense

Liabilities		CONSOLIDATED		
		28 JUNE 2020	30 JUNE 2019	
	NOTES	$M	$M	
Current liabilities				
Trade and other payables				OL (after checking note)
Provisions				OL/FO (after checking note)
Lease liabilities				FO (after checking note)
Other				OL (assumed)
Total current liabilities				
Non-current liabilities				
Interest-bearing liabilities				FO (after checking note)
Provisions				OL/FO (after checking note)
Lease liabilities				FO (after checking note)
Other				OL (assumed)
Total non-current liabilities				
Total liabilities				

* Note 2.9 reveals that 2019 'provisions' include amounts for 'lease provisions' ≡ FO

Reformulation Summary - Coles

	2020	2019			2020	2019
OA	17,502	9,028		FA	847	749
OL	5,297	6,308		FO	10,437	112
					9,590	(637)
				S	2,615	3,357
NOA	12,205	2,720		N	12,205	2,720

applied to valuation

market value of net operating assets = market value of equity + market value of net financial obligations

‘market value of equity’ (16 December)

= 1,334 million shares x $18.16 = $24,225.44 million

‘market value of NFO’ – most p ounting) value of NFO instead of market valuation

➙ $9,590

➡ ‘market value of net operating assets’ (enterprise value)

= $24,225.44 million + $9,590 = $33,815.44 million

PART 5 – Income Statement Reformulation

overview – reformulation of the AASB/IFRS Income Statement *and* Statement of Comprehensive Income into a Reformulated Income Statement such that it:

1. divides Income Statement items into operating versus financing activity related

2. further divides operating in es, based on whether the items are recurring and driven by

3. reallocates income tax expense to remove sts of debt financing/financial assets

4. divides OCI into operating and financing aspects

Process (as per schema on the next slide) –

Step #1: divide every line item in the Income Statement between operating and financing

Step #2: divide operating items into:

- core operating income from sales
- core other operating income
- unusual operating income

Step #3: divide income tax exp

- core operating income from sales
- core other operating income
- unusual operating Income
- net financial expense (or net financial income)

Step #4: divide OCI items (after-tax) between operating and financing

AASB/IFRS Income Statement & Statement of Comprehensive Income

Reformulated Income Statement

Sales
- COGS
= Gross margin
- Other expenses
= EBITDA
- Depreciation & amortisation
= EBIT
+ Interest revenue
- Interest expense
= PBT
- Income tax expense
= NPAT
+OCI (with tax effects)
= Comprehensive Income (CI)

Steps 1 and 2 →
- Core Operating Income from Sales (before-tax)
- Core Other Operating Income (before-tax)
- Unusual Operating Income (before-tax)
- Net Financial Expense (before-tax)

Step 3 →
Tax allocation:
- Tax shield from NFE
- Tax on Core Other OI
- Tax on Unusual OI
- Tax on Core OI from Sales

Step 4 →
- Operating OCI (after-tax)
- Financing OCI (after-tax)

Step #1: divide every line item in the Income Statement between operating and financing

- **Operating** items: revenues/expenses (or gains/losses) related to the company's operations e.g., sales, COGS, wages, advertising, depreciation, etc.

- **Financing** items: revenues/expenses (or gains/losses) related to the company's financing activities e.g., interest revenue, interest expense, etc.

  - consider information in t 's operating model (use judgement)

  - try to be consistent in how you reformul nd I/S
    - operating revenues/expenses should relate to operating assets/liabilities
    - financial income/expenses should relate to financial assets/obligations

      e.g., if a company's 'equity-accounted investments' are classified as a FA, then 'share of profits of equity-accounted investments' should be a financial gain/loss

- Typical operating items:
  - sales or revenue from sales of goods/provision of services
  - cost of goods sold or cost of sales
  - wages and salaries or employee benefits
  - advertising
  - research and development
  - selling, general & administrative expenses (SG&A)
  - repairs and maintenance
  - depreciation and amortisation
  - operating lease expense
  - share of profits/loss on equity-

- Typical financial items:
  - interest revenue or financial revenue
  - interest expense or financial expense
  - finance lease expense
  - dividend revenue from financial assets
  - gain/loss on revaluation of financial assets reported in the income statement (e.g. investment property, financial securities)

lacking Notes on ‘other operating revenue’ and ‘other income’, will treat all items as ‘operating items’ except ‘financing costs’ which will be classified as a ‘financial item’

PART 6 – Reformulating the Income Statement (cont)

Step #2: divide 'operating items' into:

- core operating income from sales
  - ➙ recurring operating income related to the company's main operations (driven by sales volume) e.g., sales, COGS, wage expense

- core other operating income
  - ➙ recurring operating income that is not r e company's main operations (not driven by sales volume) e.g., share of profits of equity-accounted investments, royalty income

- unusual operating income
  - ➙ non-recurring (one-time) operating income e.g., restructuring charges, extraordinary items, gain/loss on sale of PPE

Why these classifications? **facilitates forecasting**

Why separate 'core operating income' and 'unusual operating income'?

- when evaluating historical performance, it is useful to know whether earnings was affected by unusual items e.g., suppose a company makes $100m in profit, but $80m came from a one-time gain on selling surplus land

- when forecasting, it is useful to know whether an item is likely to repeat in the future e.g., a loss due to a floo[illegible]ar

Why then further split 'core operating income' i[illegible]erating income from sales' and 'core other operating income'?

- for forecasting purposes, it is useful to know the 'driver' of an item
- items in 'core operating income from sales' are likely to be associated with sales volume (e.g., COGS), whereas items in 'core other operating' are likely driven by other factors (e.g., royalty income)

❑ Core *versus* Unusual

- **core** items occur every year, and are fairly stable and predictable
- **unusual** items do not occur every year, or vary greatly from year-to-year and/or are unpredictable
- restructuring charges, extraordinary items, impairments, asset/business sales are generally **unusual items**, ey are not recurring
- clues as to what be non-r ther sections of the annual report and the company's investor presentation cise judgement; do not necessarily follow the company's advice if an item looks like it is actually a normal expense or recurring)

note – 'other comprehensive income (OCI)' is considered separately in Step #4; we will implicitly treat all OCI items as 'unusual'

❑ Core Operating Income from Sales *versus* Core Other Operating Income

- typical 'core operating income from sales':
  - sales or revenue from sales of goods/provision of services
  - cost of goods sold or cost of sales
  - wages and salaries or employee benefits
  - advertising
  - research and developm
  - selling, general & administrative expen
  - repairs and maintenance
  - depreciation and amortisation

- typical ‘core other operating income’:
  - royalty income
  - rental income (not related to Investment property, which would be financing)
  - grant income
  - share of profits/loss on equity-accounted investments
  - ‘other income’
  - income from ‘side busines … broken-out on the income statement

→ Core OI from sales
→ Core other OI

→ Core OI from sales

→ Core other OI
→ Core OI from sales & Unusual OI*

→ Core financing expense (NFE)
→ Core other OI

→ Core financing expense (NFE)

→ *Step #3*

→ Unusual OI

* Note 1.4 indicates that 'Administrative expenses' include an 'impairment reversal' of $41 million in 2020 and an 'impairment expense' of $42 million in 2019 ⇢ 'Unusual OI'

Summary – Coles reformulated Income Statement (following Steps #1 & #2)

	2020	2019
Core OI from Sales (before tax)	1,243	934
Core Other OI (before tax)	478	721
Core OI (before tax)	**1,721**	**1,655**
Unusual OI (before tax)		315
Core NFE (before tax)		(188)

* **2020 reconciles;** 2019 does NOT – tax adjustment on 'discontinued'

versus reported profit before tax from the I/S

	2020	2019
Profit before tax	**1,319**	**1,425**

Process –

✓ **Step #1:** divide every line item in the Income Statement between operating and financing

✓ **Step #2**: divide operating items into:

- core operating income from sales
- core other operating income
- unusual operating inco

Step #3: divide income tax expense betwee

- core operating income from sales
- core other operating income
- unusual operating Income
- net financial expense (or net financial income)

Step #4: divide OCI items (after-tax) between operating and financing

PART 7 – Summary: Sessions #1 → #6

overarching objective:

to conduct fundamental value for the purpose of estimating the 'intrinsic value' of a firm's common shares

➝ requires an understanding of the firm's 'value drivers'

➡ need to accumulate a 'tool kit' as the basis for developing the *pro forma Financial Statement*

STEP 1
Understanding the past

1. **Information collection**
2. **Understanding the business**
3. **Accounting analysis**
4. **Financial ratio analysis**
5. **Cash flow analysis**

☐

STEP 2
Forecasting the future

1. **Structured forecasting**
2. **Income Statement forecasts**
3. **Balance sheet forecasts**
4. **Cash flow forecasts**

☐

STEP 3
Valuation

1. **Cost of capital**
2. **Valuation models – *AE, FCF, D***
3. **Valuation ratios**
4. **Complications**
   a. **Negative values**
   b. **Value creation and destruction**

external environment

- economic prospects
- macroeconomic factors
- socio-cultural forces
- political / regulatory

Analysis of Financial Statements

- understanding current F/S
- re-formulating the F/S
- accounting quality

- analysts' reports
- management forecasts
- financial press
- ???

Industry dynamics
→ Porter's five forces
(suppliers, buyers, new entrants, substitutes, rivalry)