ACCT7106 – Session #8: Accounting / Earnings Quality

PART 1 – Background

overarching objective:

to conduct the fundamental valuation exercise 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 Statements*

⇒ ***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 into the valuation model → x g

$$V_0 = \sum_{t=1}^{\infty} \frac{x_t}{(1+k_t)^t} = \sum_{t=1}^{n} \frac{E(x_t)}{(1+k)^t} + \frac{E(x_n)(1+g)}{k-g} \frac{1}{(1+k)^n}$$

Sessions #3 ➞ #10

Sessions #1 ➞ #3; #12 – #13

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

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

Sessions #10 ➞ #12

external environment

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

Industry dynamics

→ Porter's five forces

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

Analysis of Financial Statements

- understanding current F/S ✓
- re-formulating the F/S ✓
- accounting quality * * Session #8
- ratio analysis Sessions #9 & #10

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

- 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 → definitions specific to accounting

- accounting principles → AASB / IFRS rules to guide accounting decisions/choices

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

- 'accountability' & 'stewardship'
  - ***'accountability'*** → preservation by management of the resources entrusted to them
  - ***'stewardship'*** → efficient use by management of resources entrusted to them (earning a return)

'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

± Cash from operations

\+ Net Income & OCI

= 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)

Reformulation

- **Objectives:**

  - separate **operating** activities from **financing** activities
    - *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? industrial companies generate value from their operations, not from their financial activities

  - alter several accounting classifications
  - for the Income Statement, separate revenues and expenses based on their *driver* (sales volume or other), and whether they are recurring or non-recurring
  - for Statement of Cash Flows, separate operating from financing activities; determine free cash flows → operations-related cash flows split by operating versus investing; and separate equity and debt financing cash flows

PART 2 – Accounting Quality & Earnings Management

- **Definition:** ***earnings management***

  $\Rightarrow$ *choices by management to influence earnings in a <u>systematic direction</u>*

  $\rightarrow$ strategic (intentional) choice

- **Conceptual foundation** – commonly argued that reported earnings serve as:

1. a measure of the past and current operating profitability of a firm
2. a principal variable in valuing a firm's common stock

- **Definition:** ***earnings quality***

  a firm's ***reported earnings*** *number is said to be of* ***high quality*** *if it accurately and reliably measures current economic value-added and is a good predictor of economic value likely to be added in the future*


IF WE LEASE A MACHINE FROM YOU, HOW CAN WE BE SURE YOU'LL STAY IN BUSINESS TO SERVICE IT?
E-mail: SCOTTADAMS@AOL.COM
HOW CAN WE BE SURE YOU'LL HAVE ENOUGH MONEY TO PAY THE LEASE?
YOU COULD CHECK OUR FINANCIALS.
© 2001 Scott Adams, Inc./Dist. by UFS, Inc.
I'M PRETTY SURE YOUR FINANCIALS ARE AS FRAUDULENT AS OURS.
GOOD POINT.
MAYBE WE COULD ASK TRUSTED THIRD PARTIES TO VOUCH FOR US.
DO YOU TRUST AN THIRD PARTIES?
NOT SINCE MY FINANCIAL ADVISOR
SAVINGS IN A PONZI SCHEME AND HAD AN AFFAIR WITH MY WIFE.
www.dilbert.com
AND THUS ENDED CAPITALISM
WELL, WE TRIED.
MAYBE I COULD GROW FOOD IN MY CAR.

- reasons why the link between reported earnings and economic value-added may not be “clean”:

1. the “*sustainability*” issue

→ inclusion of non-recurring items in reported income

2. the “*earnings measurement*” issue

→ inadequacy of accounting systems to accurately and reliably measure economic value-add

3. the “*earnings management*” issue

→ the opportunity (and incentive) for management to manage the level or trend of reported earnings to its advantage

- **The decision to manage earnings:**
  - reasons cited as to ***why*** management might wish to manage earnings include:
    - share price; compensation; job security; reduce perceived risk by smoothing
  - reasons cited as to ***why*** management may decide ***not*** to manage earnings include:
    - earnings and cash flow ultimately coincide; capital markets penalise firms

- **Mechanisms available to manage earnings:**

  - ***accounting-based***: selection and/or application of accounting principles within GAAP

    e.g., choice of depreciation method (straight-line *versus* accelerated)
    estimating the useful life & salvage value for non-current assets
  - ***'real activities' management*** ➔ **business strategy / operations**

    e.g., timing of discretionary expenditures (R&D, advertising, maintenance)
    timing of acquisitions & disposals (gain/loss)

- **Constraints on management behaviour (*relating to accounting-based EM*):**
  - securities **regulators** and stock exchange requirements and monitoring
  - **independent audit** of the financial statements
  - **financial analysts** typically have a sense of the reporting "personalities" of various firms
  - the **frequency, timeliness, and quality of management's communications** serve as signals of the forthrightness of management and the likelihood of earnings being managed
  - since **earnings and cash flows must ultimately coincide**, earnings can not be managed "forever"

⇒ analysts (and investors) must understand the GAAP that adapt to earnings management so that they can separate economic value-added from "cosmetic" (i.e., earnings managed) value-added

❖ ***Healy and Wahlen***

Healy and Wahlen, 1999. "A review of the earnings management literature and its implications for standard setting", *Accounting Horizons*, 13(4), 365-383

- a central question for standard setters and regulators is to decide ***how much judgment*** to allow management to exercise in financial reporting

- ideally, financial reporting helps the best-performing firms to distinguish themselves from poor performers, and facilitates efficient resource allocation and stewardship

⇒ accounting standards add value ***if*** they enable financial statements to effectively portray differences in firms' economic positions and performance in a timely and credible manner

⇒ ***if*** accounting policy choice and implementation can be employed to signal firm quality

i.e., managers can then use their knowledge about the business and its opportunities to select reporting methods, estimates, and disclosures that match the firms' business economics, potentially increasing the value of accounting as a form of communication

however, because auditing is imperfect, management's use of judgment also creates the opportunities for "earnings management"

** Dep^{n} Policy for Delta and Pan Am (1988) **

excerpt from 'Notes to Financial Statements'

Delta All of the company's flight equipment is being depreciated on a straight-line basis to residual value (10% of cost) over a 15-year period from dates placed in service.

Pan Am Operating property and equipment is depreciated to estimated residual value (15% of cost) on a straight-line basis over the estimated useful lives of the equipment, typically 25 years.

Are these policy choices: ***defensible (e.g., auditor)?***

rational / reasonable?

informative?

hypothetical illustration

- 1 January, 2010, each firm purchases a new Boeing 777 aircraft at a cost of $100 million
- each company sells the aircraft for $35 million on December 31, 2019

Based on this assumed information and each company’s stated depreciation policy:

Calculations:	**Delta**	**Pan Am**
Original cost	100,000,000	100,000,000
Residual value (10% / 15%)	(10,000,000)	(15,000,000)
Amount to depreciate	90,000,000	85,000,000
Estimated life	15 years	25 years
Depreciation (2010 – 2019)	**6,000,000**	**3,400,000**
Net Book Value (31/12/19)	40,000,000	66,000,000
Sales proceeds (31/12/19)	35,000,000	35,000,000

Are these policy choices:

defensible (e.g., auditor)? ***rational?*** ***informative?***

operating statistics	Delta	Pan Am
Operating inc (loss)	497,054	(84,183)
Net income (loss)	306,826	(118,254)
Accounting choice	shorter life (15 years) lower residual (10%)	longer life (25 years) higher residual (15%)
currently affordable? signal of future profitability?	**higher dep^{n} charge**	**lower dep^{n} charge**

⇒ ongoing debate – ‘rules-based’ *versus* ‘principles-based’

rules-based

⇨ accounting standards prescribe in detail exactly how to account for various items and situations without providing discretion

→ more limited scope for earnings management type behaviour *BUT* also limited opportunity for management to use accounting policy choice as a means of communication

principles-based

⇨ accounting standards provide guidance on how various items and situations should be accounted for, but also provide flexibility for management to exercise judgement within the spirit of the guidance

→ more opportunity for management to use accounting policy choice as a means of communication *BUT* also increased scope for earnings management type behaviour

→ **debate about trade-offs between costs and benefits of allowing discretion**

PART 3 – Academic Evidence

Graham, J., C. Harvey, and S. Rajgopal, 2005. "The economic implications of corporate financial reporting", *Journal of Accounting and Economics*, 40, 3-73

- ***<u>Graham, Harvey, Rajgopal</u>***

- survey CFOs of both public and private companies
- focus on the factors that drive choices related to reporting accounting numbers
- basic questions:
  - do managers care about earnings benchmarks or earnings trends?
  - if so, which benchmarks are perceived to be important?
  - what factors motivate firms to exercise discretion, and even sacrifice economic value, to manage reported earnings?

1. *earnings vs. cash flow* – CFOs believe that earnings and not cash flows, are the key metric

2. *earnings benchmarks* – CFOs treat 'same quarter last year EPS' and consensus analyst forecast as the most important benchmarks – hitting benchmarks builds credibility and enhances share price

3. *why focus on benchmarks – benefits and consequences*

benefits – credibility with capital markets, reputation of management, portrays stability

consequences – uncertainty, possibility of unknown problems, time required to explain

4. *actions taken to meet benchmarks* – CFOs express a strong preference towards <u>real activities manipulation over GAAP management</u> – while auditors can second-guess accounting policies, they cannot readily challenge real economic actions to meet earnings targets; important to assure stakeholders that there is no accounting-based earnings management in their books

5. *voluntary disclosure*: benefits – reputation for transparent & accurate reporting; reduce information risk

constraints – setting a precedent; revealing proprietary information

⇒ <u>willing to sacrifice economic value to meet earnings targets</u>; also a clear tension between short-term and long-term objectives of the firm

→ sacrifice of value perceived to be the lesser of two evils (relative to short-term turmoil in debt and equity markets)

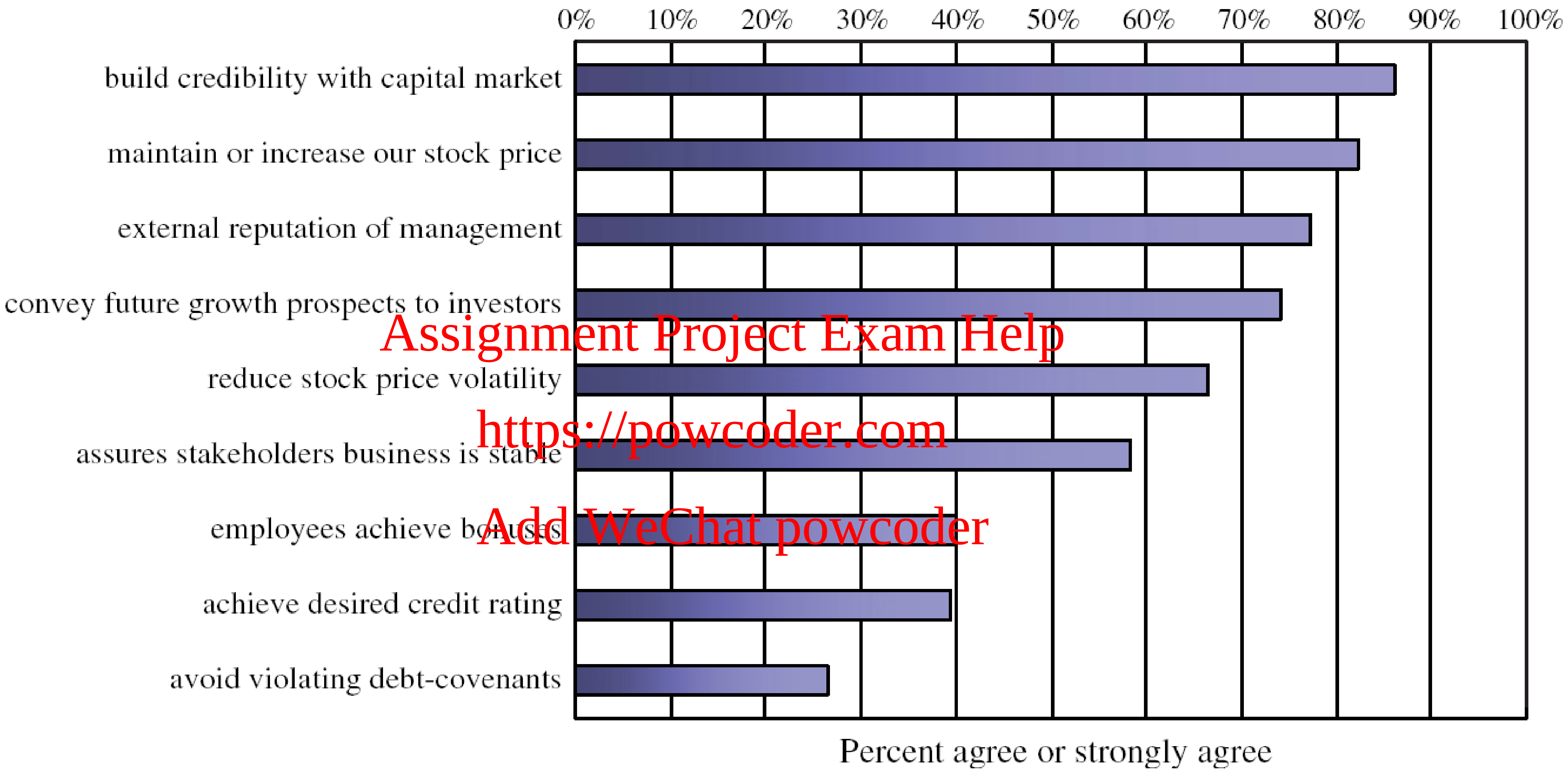


Fig. 3. Responses to the question: "Meeting earnings benchmarks helps…" based on a survey of 40 financial executives.

Fig. 4. Responses to the question: “Failing to meet benchmarks…” based on a survey of 401 financial executives.

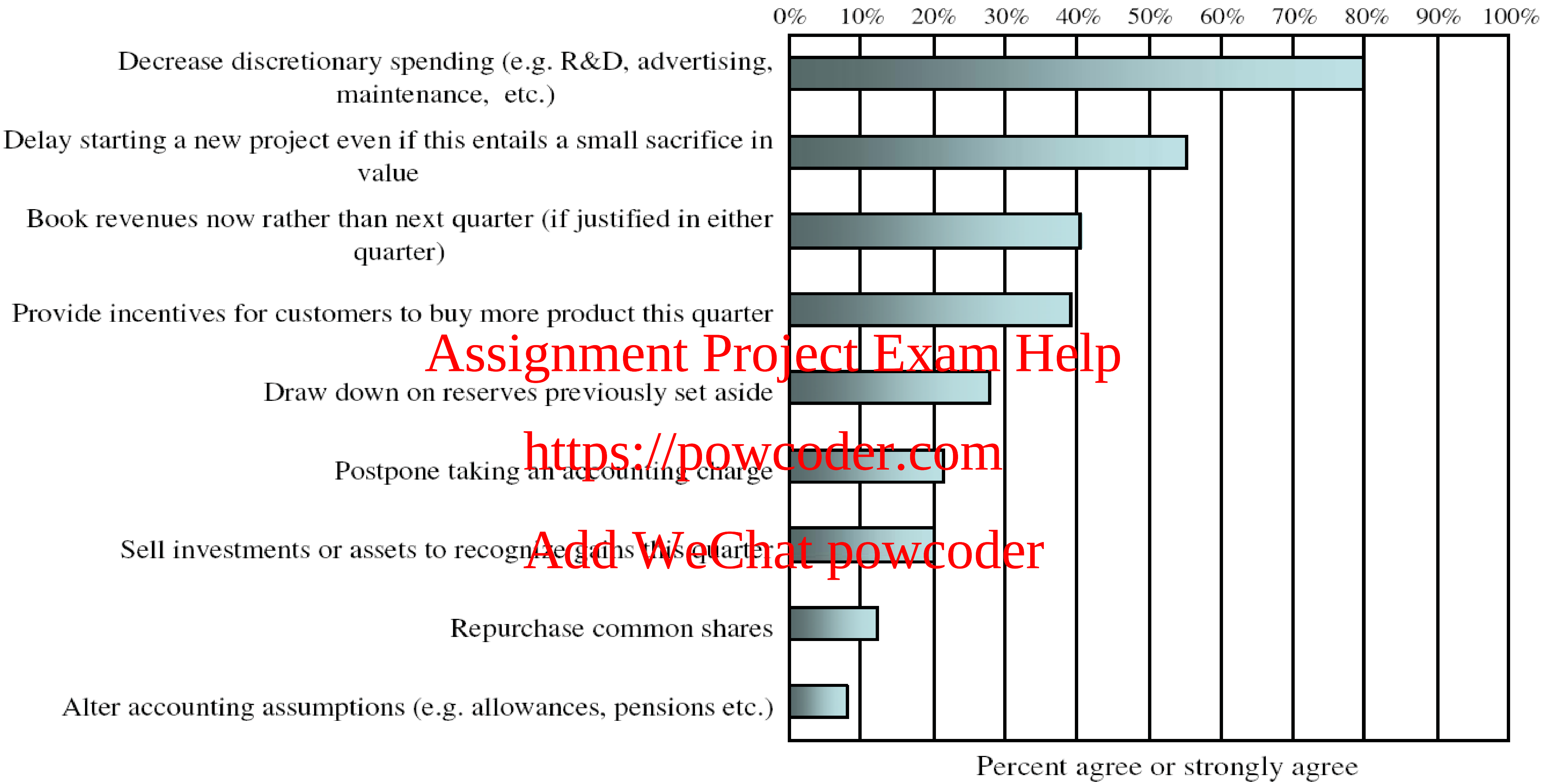


Fig. 5. Responses to the question: "Near the end of the quarter, it looks like your company might come in below the desired earnings target. Within what is permitted by GAAP, which of the following choices might your company make?" based on a survey of 401 financial executives.

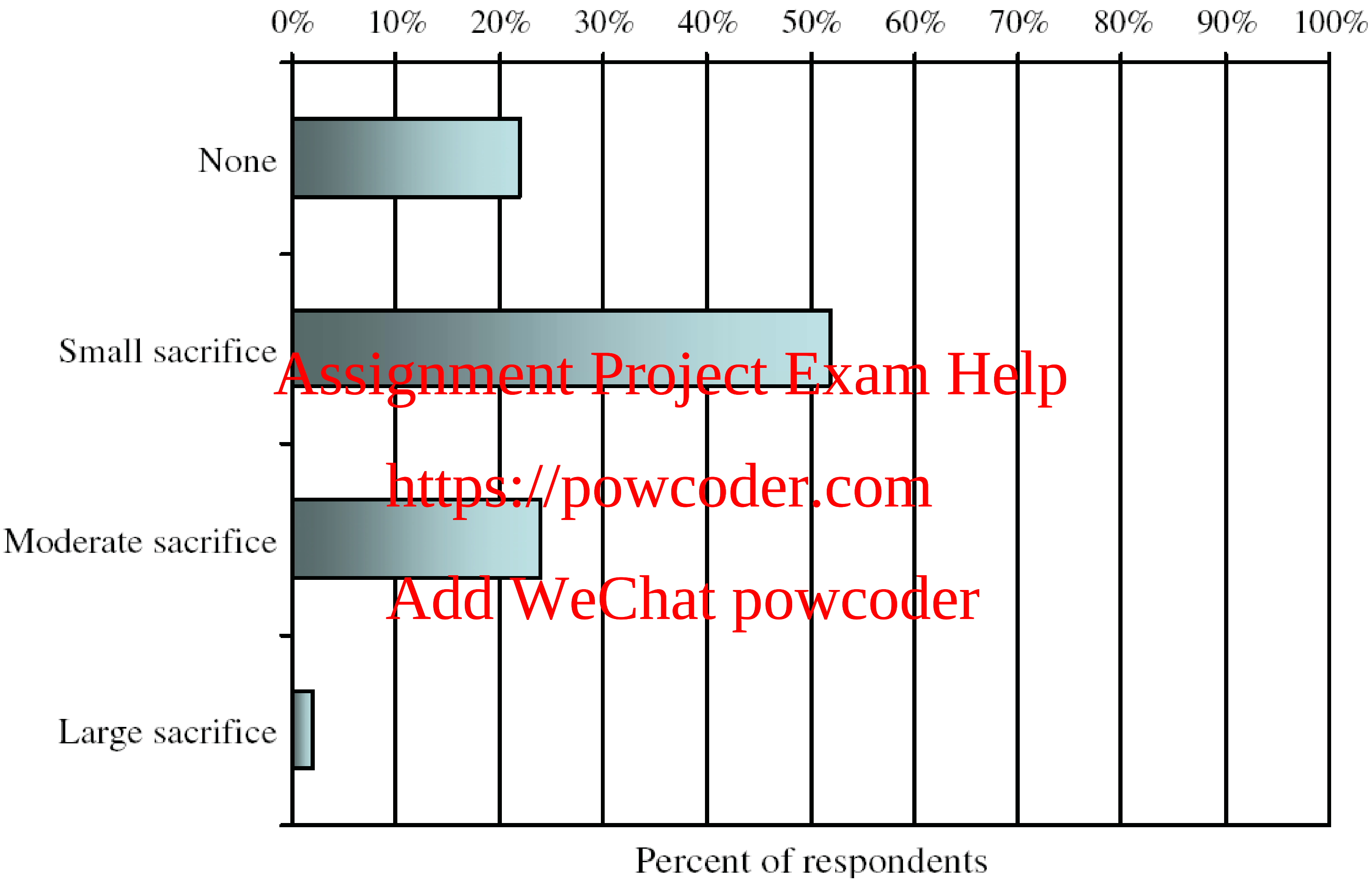


Fig. 8. Responses to the question: "How large a sacrifice in value would your firm make to avoid a bumpy earnings path?" based on a survey of 401 financial executives.

why voluntarily disclose?

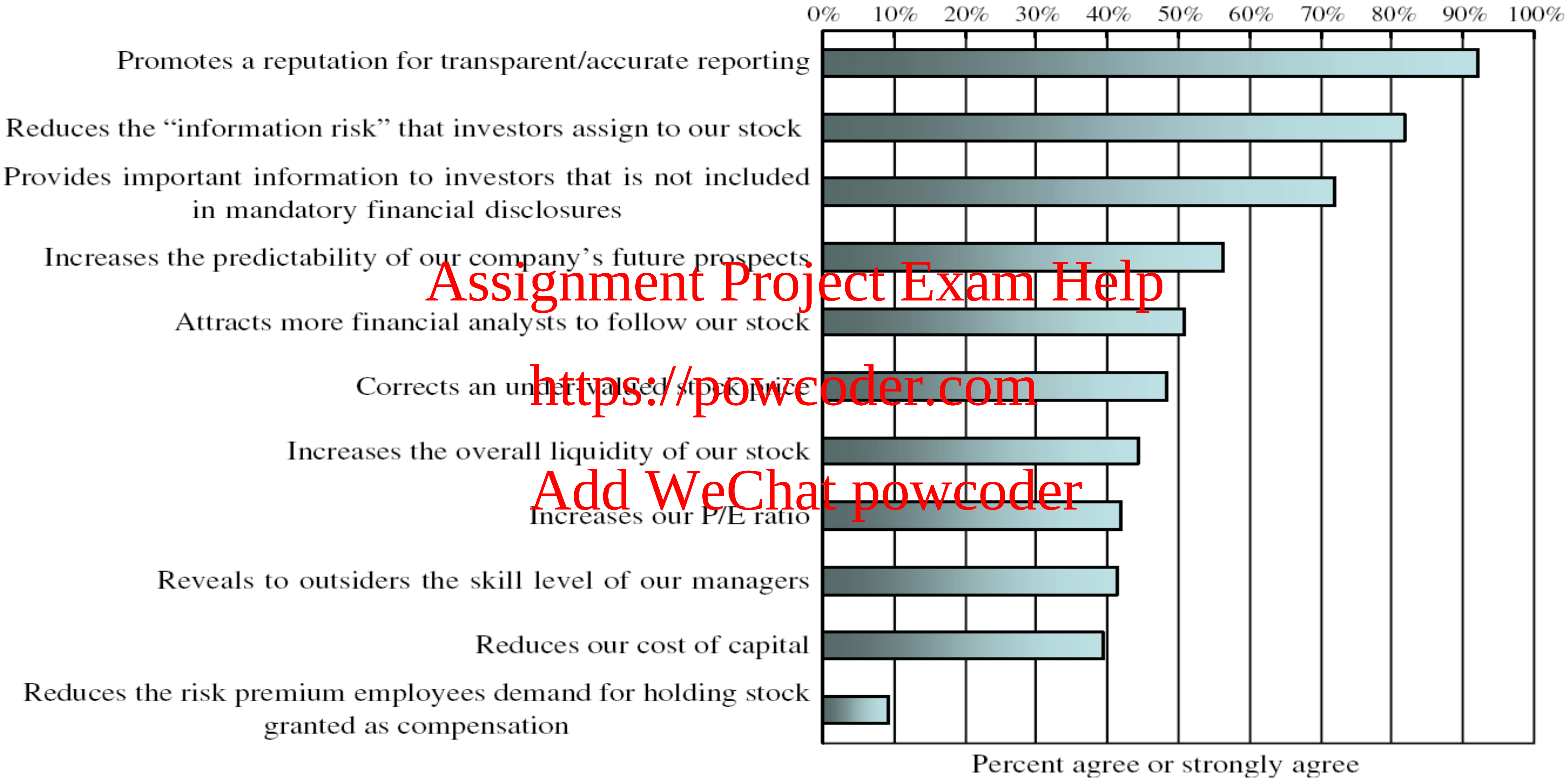


Fig. 10. Responses to the question: "Do these statements describe your company's motives for voluntarily communicating financial information?" based on a survey of 401 financial executives.

constraints on voluntary disclosure?

Table 12
Survey responses to the question: Limiting voluntary communication of financial information helps…

Panel A: Unconditional averages

Question		% agree or strongly agree	% disagree or strongly disagree	Average rating	H0: average rating = 0
(1)	Avoid setting a disclosure precedent that may be difficult to continue	69.6	14.7	0.74	***
(2)	Avoid giving away "company secrets" or otherwise harming our competitive position	58.8	24.8	0.49	***
(3)	Avoid possible lawsuits if future results don't match forward-looking disclosures	46.4	25.5	0.26	***
(4)	Avoid potential follow-up questions about unimportant items	36.7	30.5	0.04	
(5)	Avoid attracting unwanted scrutiny by regulators	20.3	56.7	−0.52	***
(6)	Avoid attracting unwanted scrutiny by stockholders and bondholders	16.8	54.8	−0.56	***

bad news vs good news? – no real evidence of an asymmetry in terms of the timing of the disclosure of good and bad news – argued that both need to be disclosed to build credibility with the market; better that news come from the firm rather than from outside sources

Table 13
Questions related to timing of disclosures. Survey responses to the question: Do the following statements describe your company's motives related to the timing of voluntary disclosures?

Panel A: Survey responses to the question: Based on your company's experience, is good news or bad news released to the public faster?

Bad news faster	No difference	Good news faster	Average rating
26.6	52.9	20.5	−0.12

Panel B: Survey responses to the question: Do the following statements describe your company's motives related to the timing of voluntary disclosures?

Question		% agree or strongly agree	% disagree or strongly disagree	Average rating	H_0: average rating = 0
(1)	Disclosing bad news faster enhances our reputation for transparent and accurate reporting	76.8	3.7	0.93	***
(2)	Disclosing bad news faster reduces our risk of potential lawsuits	76.8	8.5	0.91	***
(3)	Good news is released faster because bad news takes longer to analyze and interpret	66.7	12.7	0.76	***
(4)	Good news is released faster because we try to package bad news with other disclosures which can result in a coordination delay	35.5	37.1	−0.05	

❖ ***Burgstahler and Dichev***

Burgstahler, D. and I. Dichev, 1997. "Earnings management to avoid earnings decreases and losses", *Journal of Accounting and Economics*, 24, 99-126

- do managers manage earnings to avoid reporting earnings decreases and losses?

- **conclusions:**

  - approximately 8% - 12% of firms with small pre-managed earnings decreases exercise discretion to report increases

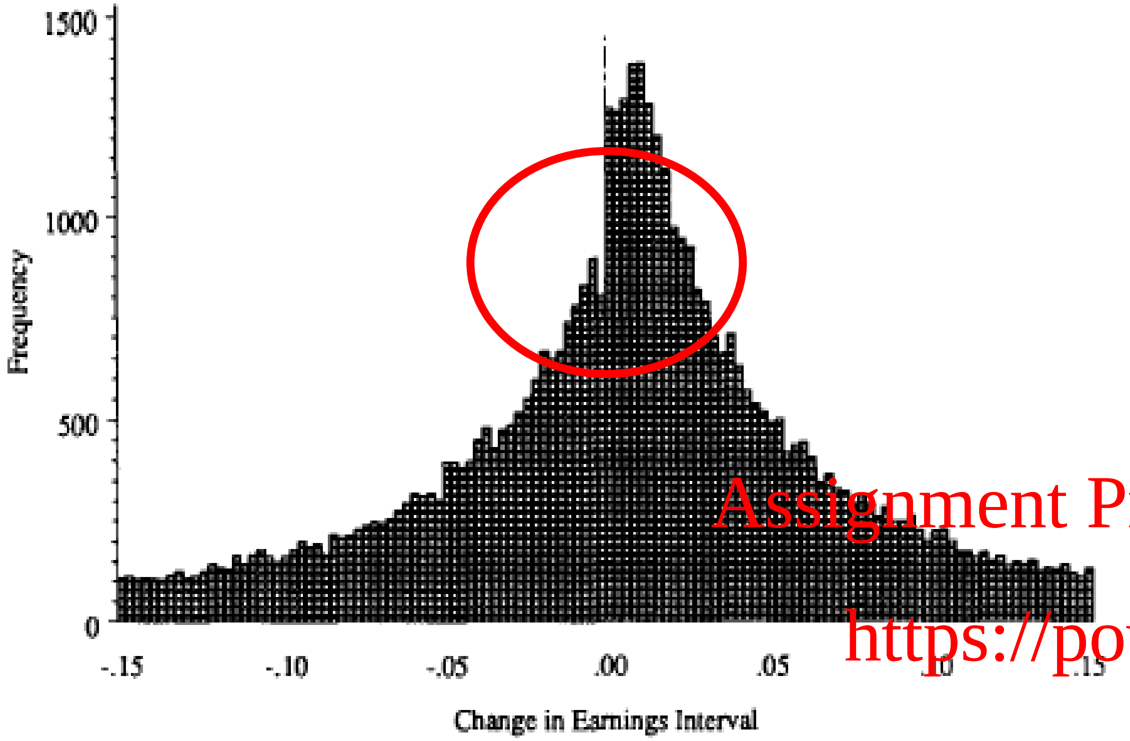
  - approximately 30% - 44% of firms with slightly negative pre-managed earnings exercise discretion to report positive earnings

figure 1: histogram of scaled earnings changes with an irregularity near zero

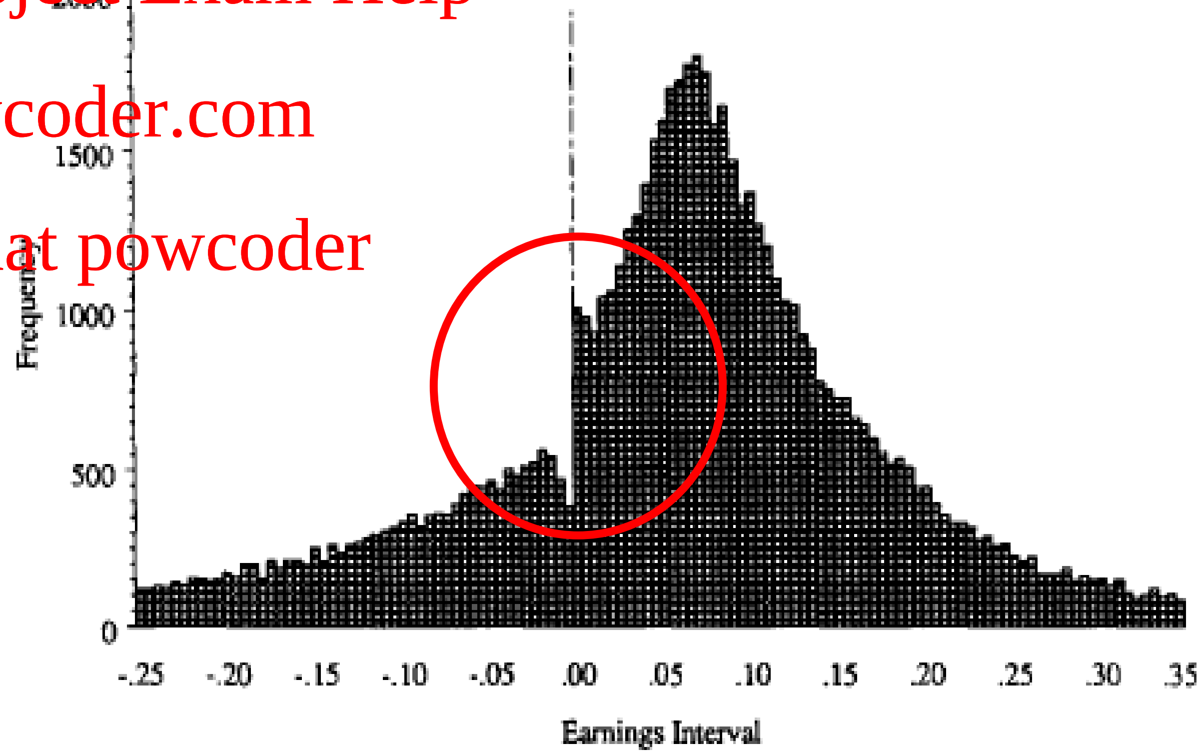
⇨ consistent with earnings management to avoid decreases

figure 3: histogram of scaled earnings with an irregularity near zero

⇨ consistent with earnings management to avoid losses



1500
1000
500
0
Frequency
-.15
-.10
-.05
.00
.05
Change in Earnings Interval



1500
1000
500
0
Frequency
-.25
-.20
-.15
-.10
-.05
.00
.05
.10
.15
.20
.25
.30
.35
Earnings Interval

❖ ***Roychowdhury***

Roychowdhury, S., 2006. "Earnings management through real activities manipulation", *Journal of Accounting and Economics*, 42(3), 335-370

- the management of operational activities – to avoid losses

  "real activities manipulation – management actions that deviate from normal business practices, undertaken with the primary objective of meeting certain earnings thresholds"

- focus on three specific manipulation methods:
  - sales manipulation (increased price discounts, more lenient credit terms)
  - reduction of discretionary expenditures (R&D, advertising, maintenance)
  - overproduction (to report lower COGS)

- focus on "***suspect firm-years***" → net income just right of zero

- *findings:* abnormal CFO unusually low for suspect firm-years

  abnormal discretionary expenditures unusually low for suspect firm-years

  abnormal production costs (% of sales) unusually high for suspect firm-years

⇒ documents evidence consistent with real activities manipulation around earnings thresholds commonly discussed in the literature, in particular, the zero threshold

Dichev, I.. J. Graham, C. Harvey & S. Rajgopal, 2013. Earnings quality: Evidence from the field. *Journal of Accounting and Economics*, *56*(2-3), 1-33

❖ ***<u>Dichev, Graham, Harvey, Rajgopal</u>***

➢ survey of 169 CFOs of public companies and in-depth interviews of 12 CFOs and two standard setter

1. believe earnings management is quite common (T10 – 18.3% of earnings are managed)

2. believe that when EM occurs, it is a 'big problem' (T11 – almost 10% of earnings figure)

3. greatest incentives – to influence stock price; pressure to hit earnings benchmarks; to influence compensation

4. common 'red flags' – disconnect between earnings and cash flow; deviations from industry norms; consistently meet or beat earnings targets; large/frequent one-time items; significant accruals and changes in accruals

Table 10
Survey responses to the question: from your impressions of companies in general, in any given year, what percentage of companies use discretion within GAAP to report earnings which misrepresent the economic performance of the business?

Public ($N = 163$)								Private ($N = 194$)
Mean	Median	Std. dev.	Min	Max	% Greater than 0	% Greater than 15	H_0: Mean = 0	Mean
18.43	15.00	17.24	0	100	99.37	40.47	***	30.37***

Table 11
Survey responses to the question: for this question, consider only companies that use discretion within GAAP to misrepresent economic performance. Among these firms, assume that earnings per share is $1 per share. Of this, how many cents per share is typically misrepresented?

Public ($N = 163$)							Private ($N = 189$)
Mean	Median	Std. dev.	Min	Max	% Less than 10	% Greater than 10	Mean
9.85	10.00	8.81	1	65.50	45.39	22.70	12.35**

Table 13

Motivations	Companies report earnings to misrepresent economic performance:	% Agree	% Disagree	Average rating
(1)	To influence stock price	93.45	6.55	4.55
(2)	Because there is outside pressure to hit earnings benchmarks	92.86	2.38	4.41
(3)	Because there is inside pressure to hit earnings benchmarks	91.02	1.19	4.28
(4)	To influence executive compensation	88.62	11.38	4.46
(5)	Because senior managers fear adverse career consequences if they report poor performance	80.36	8.33	4.02
(6)	To avoid violation of debt covenants	72.46	27.54	3.88
(7)	Because there is pressure to smooth earnings	69.05	11.90	3.74
(8)	Because they believe such misrepresentation will likely go undetected	60.12	17.27	3.55
(9)	Because senior managers are overconfident or overoptimistic	49.41	23.81	3.40
(10)	To reduce expectations of future earnings	41.67	32.15	3.13
(11)	To influence other stakeholders such as customers, suppliers and employees	37.73	25.15	3.16
(12)	Because they feel other companies misrepresent performance	26.19	42.86	2.73

Table 14

Rank	Red flag	Count-Public
1	GAAP earnings do not correlate with cash flow from operations; Weak cash flows; Earnings and cash flow from operations move in different direction for 6–8 quarters; Earnings strength with deteriorating cash flow	58
2	Deviations from industry (or economy, peers') norms/experience (cash cycle, volatility, average profitability, revenue growth, audit fees, growth of investments, asset impairment, A/P, level of disclosure)	40
3	Consistently meet or beat earnings targets (guidance, analyst forecasts)	29
4	Large/frequent one-time or special items (restructuring charges, write-downs, unusual or complex transactions, Gains/Losses on asset sales)	28
5	Lots of accruals; Large changes in accruals; Jump in accruals/Sudden changes in reserves; Insufficient explanation of such changes ; Significant increase in capitalized expenditures; Changes in asset accruals; High accrued liabilities	25
6	Too smooth/too consistent of an earnings progression (relative to economy, market); Earnings and earnings growth are too consistent (irrespective of economic cycle and industry experience); Smooth earnings in a volatile industry	24
7	(Frequent) Changes in (significant) accounting policies	17
8	Using non-GAAP (and/or changing) metrics	14
9	High executive turnover; Sudden change in top management; Change in financial management; Sudden director turnover; Employee (non-management) turnover	14
10	Inventory build-up/age of raw materials; Build-up in work-in-progress; Mismatch between inventory/COGS/reserves	12

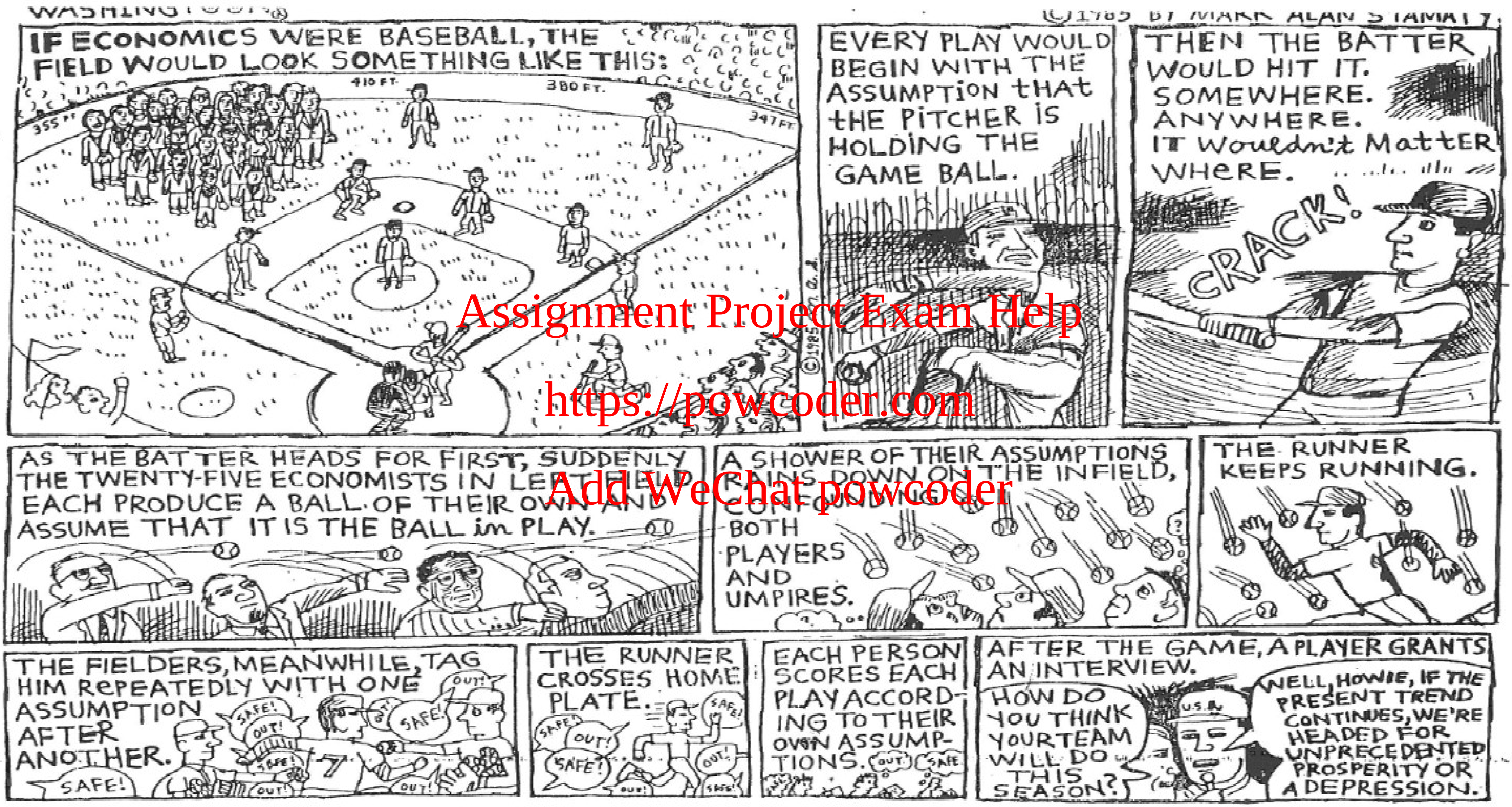
PART 4 – Methodological Issue - Detection / Measurement of EM

there are a number of methodological "challenges" or issues associated with the detection of earnings management (irrespective of whether undertaken cosmetically through the financial statements or alternatively through real operating decisions)

Why? management has a strong incentive to hide the earnings management

Approaches to detection

Academic studies	→	large sample	⇒	statistical power
Regulatory (enforcement) / Investing	**→**	**'case study'**	**⇒**	**"red flag required"**


IF ECONOMICS WERE BASEBALL, THE FIELD WOULD LOOK SOMETHING LIKE THIS:
410 FT.
380 FT.
355 FT
347 FT
EVERY PLAY WOULD BEGIN WITH THE ASSUMPTION THAT THE PITCHER IS HOLDING THE GAME BALL.
THEN THE BATTER WOULD HIT IT. SOMEWHERE. ANYWHERE. IT WOULDN'T MATTER WHERE.
CRACK!
AS THE BATTER HEADS FOR FIRST, SUDDENLY THE TWENTY-FIVE ECONOMISTS IN LEFT FIELD EACH PRODUCE A BALL OF THEIR OWN AND ASSUME THAT IT IS THE BALL in PLAY.
A SHOWER OF THEIR ASSUMPTIONS RAINS DOWN ON THE INFIELD, CONFOUNDING BOTH PLAYERS AND UMPIRES.
THE RUNNER KEEPS RUNNING.
THE FIELDERS, MEANWHILE, TAG HIM REPEATEDLY WITH ONE ASSUMPTION AFTER ANOTHER.
OUT!
SAFE!
OUT!
SAFE!
OUT!
SAFE!
SAFE!
OUT!
OUT!
THE RUNNER CROSSES HOME PLATE.
SAFE!
OUT!
SAFE!
SAFE!
OUT!
EACH PERSON SCORES EACH PLAY ACCORDING TO THEIR OWN ASSUMPTIONS.
OUT
SAFE
AFTER THE GAME, A PLAYER GRANTS AN INTERVIEW.
HOW DO YOU THINK YOUR TEAM WILL DO THIS SEASON?
WELL, HOWIE, IF THE PRESENT TREND CONTINUES, WE'RE HEADED FOR UNPRECEDENTED PROSPERITY OR A DEPRESSION.
U.S.A.

The 3 basic questions that frame the notion of "*power to detect*" are the following:

1. Where is it most "profitable" to look?

- under what set of circumstances is earnings management activity most likely to occur?
- which firms are the most suspicious (in the most suspicious circumstances)?
- what are management's incentives? (earnings targets? contractual obligations? compensation?)

i.e., small positive earnings; small earnings increases; earnings volatility (smooth earnings)

2. What should be examined?

→ what should the search focus on? what 'lever' is management most likely to utilize to accomplish the earnings management?

i.e., accounting (accruals); real activities

3. How should the investigation be conducted? → technique(s)?

****** our focus – accounting statements (especially Income Statement) → *accruals* ******

⇒ Basic Steps in the Analysis of Accounting Quality

1. Identify key accounting policies e.g., revenue recognition; depreciation policies for airlines

2. Assess accounting flexibility e.g., expected default on bank loans

3. Evaluate accounting strategy
   - compare with industry practise
   - analyse managers' incentives
   - examine changes in accounting policies
   - assess accounting policies and estimates
   - investigate unusual transactions

4. Evaluate disclosure quality i.e., sufficient and clear information

5. Identify potential red flags see Penman Table 18.1, Figure 18.2 (reproduced below)
   - accruals and cash flows
   - financing activities
   - financial market pressure

6. Undo accounting distortions

Why accruals as the 'lever'?

recall – from the 'reformulation' process (Session #6, slide 53)

$$\text{OI (after tax)} = \triangle\text{NOA} \pm \text{FCF}$$

✓ FCF is difficult to manipulate – it involves relatively few assumptions/estimates; cash flow is generally easier to audit/verify

✓ △NOA involves accruals and hence judgement & estimates

→ usually where earnings management (EM) takes place

→ if accrual-based earnings management is taking place, it should be reflected in abnormal changes in NOA (i.e., *beyond normal growth*)

→ '*diagnostics*' to discriminate between growth-related changes and EM

notes: accruals affect both earnings and NOA

accruals 'reverse' over time → a company cannot inflate its earnings forever using accruals (accrual-based earnings management is like 'borrowing earnings from the future')

To illustrate - return to the data underlying the Delta / Pan Am example

- residual value estimate – 10% versus 15%
- useful life estimate – 15 years versus 25 years
- ***assume***

XYZ Airlines Ltd purchased a new Boeing 787 for $200 million on 31/12/20; XYZ's tax rate is 30%; accounting requires an impairment charge at the end of 2025

Year	Depreciation (10%, 15 years)	Depreciation (15%, 25 years)	Difference in Operating Income (after tax)	Difference in NOA	Difference in S/E
2021	12,000,000	6,800,000	3,640,000	5,200,000	3,640,000
2022	12,000,000	6,800,000	3,640,000	10,400,000	7,280,000
2023	12,000,000	6,800,000	3,640,000	15,600,000	10,920,000
2024	12,000,000	6,800,000	3,640,000	20,800,000	14,560,000
2025	12,000,000	6,800,000	3,640,000	26,000,000	18,200,000
Impairment charge to return to appropriate balance (based on 10% & 15 years)					
2025	Impairment charge = 26,000,000		−18,200,000	0	0

Further illustration - provision for doubtful debts

- $100,000 in credit sales in Year 1; collected in Year 2; no sales in Year 2
- 'true' expected bad debt = 10% company understates the amount as 5% (i.e., EM)
- 'true' bad debt realised in second year when customers do not pay

Year	Correct Accounting		With Earnings Management	
	NOA (A/R – provision)	OI (component) (sales – bad debt exp)	NOA (A/R – provision)	OI (component) (sales – bad debt exp)
1	90,000 (= 100 – 10)	90,000 (= 100 – 10)	95,000 (= 100 – 5)	95,000 (= 100 – 5)
2	0	0	0	-5,000

⇒ OI overstated in Year 1 (due to EM); understated in Year 2 (due to reversal of EM)

NOA overstated in Year 1 (due to EM)

OI over the 2-year period is the same ($90,000)

PART 5 – Diagnostic Approach to Detecting Earnings Management

Returning to the relation

$$\text{OI (after tax)} = \triangle\text{NOA} \pm \text{FCF}$$

recall $\triangle\text{NOA} = \triangle\text{OA} - \triangle\text{OL}$

⇨ earnings can be 'inflated' by increasing OA and/or by decreasing OL

Overview – Penman: Table 18.1, Figure 18.2 (pages 599 – 602)

focus – management (manipulation) of accounting reports for the purposes of increasing income

- summary of how specific Balance Sheet items can be managed to increase income
- accounts most likely manipulated across different industry sectors
- summary of situations when manipulation is more likely
- diagnostic template to facilitate detection of operating income manipulation

TABLE 18.1 How Specific Balance Sheet Items Are Managed to Increase Income

Balance Sheet Item	Earnings Management	Effect on Income	Flash Points
Assets			
Gross receivables	Book revenue in advance of its being earned	Higher revenues	Contracts with multiple deliverables; long-term contracting; sales with related parties
Net receivables	Decrease allowances for bad debts and sales returns	Higher revenues or lower selling expenses	Receivables with low credit quality; banks' loan loss reserves
Lease receivables	Increase estimated residual values on lease termination	Higher lease revenues	Aircraft leases; computer leases; equipment leases
Inventories	Book noninventory costs to inventory; fail to write down obsolete inventories	Lower cost of goods sold or SG&A expense	Technological change causing inventory obsolescence; falling inventory prices
Prepaid expenses	Overestimate amount of expenses prepaid	Lower SG&A expense	Considerable expenses paid in advance
Property, plant, and equipment	Book repairs and maintenance to PPE; increase estimated lives of estimated salvage values; excessive impairment charges	Lower depreciation charges that appear all through the income statement, from cost of goods sold down	Capital-intensive manufacturing
Intangible assets	Charge inappropriate expenses to intangible assets; lower amortization rates	Lower amortization expense in SG&A	Knowledge-based companies; capitalized software costs
Deferred charges	Classify too much current expense as deferred expense	Lower SG&A expense	Valuation allowances on deferred tax assets; capitalized costs of acquiring customers
Liabilities			
Deferred revenue	Reduce deferred revenues	Higher revenues	Firms that defer revenues with multiple deliverables
Warranty liabilities	Reduce warranty reserve	Lower selling expenses	Firms with guaranties and warranties on their products
Accrued expenses	Reduce amount of expenses accrued	Lower expenses—applying to all expense lines	All firms
Pension liabilities	Reduce pension liabilities by changing actual assumptions and discount rate	Lower pension expense	Defined benefit pension plans
Unpaid claim reserves	Reduce the reserve	Lower claims expense	Insurance companies

Sensitive areas prone to manipulation –

Industry	Flash Point
Banking	Credit losses: Quality of loan loss provisions
Computer hardware	Revenue recognition: Quality of deferred revenue and warranty liabilities
Computer software	Marketability of products: Quality of capitalized research and development Revenue recognition of servicing contracts: Quality of receivables and deferred revenue
Retailing	Credit losses: Quality of accounts receivable Rebate programs: Quantity of supplier rebates recognized
Manufacturing	Warranties: Quality of warranty liabilities Product liability: Quality of estimated liabilities
Automobiles	Overcapacity: Quality of depreciation allowances
Telecommunications	Technological change: Quality of depreciation allowances and carrying value for inventories
Equipment leasing	Lease values: Quality of carrying values for leases, particularly estimated residual values
Tobacco	Liabilities for health effects of smoking: Quality of estimated liabilities
Pharmaceuticals	R&D: Quality of R&D expenditures Product liability: Quality of estimated liabilities
Real estate	Property values: Quality of carrying values for real property
Aircraft and ship manufacturing	Revenue recognition: Quality of estimates under percentage of completion method and "program accounting"
Subscriber services	Development of customer base: Quality of capitalized promotion costs Subscriptions paid in advance: Quality of deferred revenue

Situations where manipulation is more likely –

Institutional conditions:

- The firm is in the process of raising capital or renegotiating borrowing. Watch public offerings.
- Debt covenants are likely to be violated.
- Management changes.
- Auditor changes.
- Management rewards (like bonuses) are tied to earnings.
- Inside trading is strongly in one direction.
- Management is repricing executive stock options.
- Governance structure is weak: Inside management dominates the board; there is a weak audit committee or none at all.
- Regulatory requirements (like capital ratios for banks and insurance companies) are likely to be violated.
- Transactions are conducted with related parties rather than at arm's length.
- Special events such as union negotiations and proxy fights.
- The firm is "in play" as a takeover target.
- Earnings meet analysts' expectations, but just barely.
- The firm engages in exotic arrangements like off-balance-sheet special-purpose entities and stylized derivative contracts.

Accounting and financial statement conditions:

- A change in accounting principles or estimates.
- An earnings surprise.
- A drop in profitability after a period of good profitability.
- Constant sales or falling sales.
- Earnings growing faster than sales.
- Very low positive earnings (that might be a loss without manipulation).
- Small or zero increases in profit margins (that might be a decrease without manipulation).
- Differences in expenses for tax reporting and financial reporting.
- Financial reports are used for other purposes, like tax reporting and union negotiations.
- Accounting adjustments in the last quarter of the year.

e 18.2 – Diagnostics to Detect Manipulation of Operating Income

tigate the quality of sales revenue
tigate the quality of core expenses
tigate unusual items

note – much of the investigation will involve ratios (value of one account(s) relative to value of another account(s))

Step #1

To detect manipulated sales

- Net sales/Cash from sales
- Net sales/Net accounts receivable
- Net sales/Unearned revenue
- Net sales/Warranty liabilities
- Compare percentage change in sales to percentage change in net receivables, unearned revenue, and warranty liabilities
- Bad debt and warranty expense ratios

Step #2

To detect manipulated core expenses

- Apply a normalized asset turnover
  - Normalized operating income/Operating income
- Investigate changes in ATO
  - Watch for declines in ATO
  - Investigate changes in individual ATOs
- Challenge depreciation and amortization
  - Adjusted ebitda
  - Depreciation/Capital expenditures
- Challenge all accruals
  - Cash from operations/Operating income
  - Cash from operations/NOA
  - Accruals/Change in sales
- Challenge expenses that are sensitive to estimates
  - Pension expense/SG&A
  - Other employment expense/SG&A
- Challenge tax expense
  - Effective tax rate on operating income
  - Deferred tax components
  - Valuation allowances
- Challenge the balance sheet
  - Carrying values above market value
  - Carrying values sensitive to estimates
  - Estimated liabilities
  - Off-balance-sheet liabilities
- Challenge other core income

Step #3

To detect manipulated unusual items

- Challenge restructuring charges
- Challenge merger charges

PART 6 – Worked Example

E18.12. Tracking Changes in Net Operating Assets and the Asset Turnover: Regina Company (Medium)

(Based on an analysis by Patricia Fairfield, Georgetown University.)

The Regina Company once marketed a successful line of vacuum cleaners, but then ran into trouble and failed. As you can see from the income statements below, the firm had dramatic sales growth during the 1980s.

Using the income statements and balance sheets below, track operating income (after tax), free cash flow, changes in net operating assets, and asset turnovers over the period. Use a tax rate of 39 percent.

a. For 1988, calculate normalized operating income. What does this number tell you about the earnings quality in 1988?

b. What do the changes in asset turnover tell you about earnings quality in each of the years?

c. What detail in the statements raises further red flags?

REGINA COMPANY

Comparative Statement of Income

1985–1988

(dollars in thousands)

	Year Ended June 30			
	1985	**1986**	**1987**	**1988**
Net sales	$67,654	$76,144	$128,234	$181,123
Operating costs and expenses				
Cost of goods sold	43,988	46,213	70,756	94,934
Selling, distribution, and administration	9,121	10,366	14,621	21,870
Advertising	9,416	8,557	26,449	39,992
Research and development	673	1,182	1,530	2,423
Total operating costs	63,198	66,318	113,356	159,219
Operating income	$ 4,456	$ 9,826	$ 14,878	$ 21,904
Interest expense	2,930	1,930	1,584	3,189
Income before income taxes	$ 1,526	$ 7,896	$ 13,294	$ 18,715
Income tax expense	405	3,807	6,189	7,761
Net income	$ 1,121	$ 4,089	$ 7,105	$ 10,954

Comparative Balance Sheet
1984–1988
(dollars in thousands)

	Year Ended June 30				
	1984	**1985**	**1986**	**1987**	**1988**
Assets					
Current assets:					
Cash	$ 328	$ 36	$ 63	$ 514	$ 885
Accounts receivable, net	8,551	11,719	14,402	27,801	51,076
Inventory	11,109	6,325	9,762	19,577	39,135
Other	6	475	708	1,449	3,015
Total current assets	$19,994	$18,555	$24,935	$49,341	$ 94,111
Property, plant, and equipment cost	17,219	18,486	19,523	19,736	27,884
Less accumulated depreciation	0	(1,304)	(3,140)	(4,948)	(6,336)
Other assets	1,118	1,775	1,884	1,112	2,481
Total assets	$38,331	$37,513	$43,202	$65,241	$118,140
Liabilities and Stockholders' Equity					
Current liabilities:					
Short-term borrowings	$ 7,500	$ 3,732	$ 2,707	$ 0	$ 0
Current portion of term loan	1,400	1,400	0	900	1,250
Accounts payable	3,082	4,724	7,344	15,072	13,288
Accrued liabilities	3,800	3,091	3,127	5,468	4,710
Income taxes payable	2,349	1,145	1,554	2,619	3,782
Total current liabilities	$18,131	$14,092	$14,732	$24,059	$ 23,030

Long-term debt:					
Term loan	12,600	0	0	0	0
Industrial revenue bonds	0	14,800	14,800	13,900	12,650
Subordinated note	5,000	5,000	0	0	0
Bank debt	0	0	0	5,941	47,432
Mississippi state debt	0	0	0	0	1,975
Total long-term debt	$17,600	$19,800	$14,800	$19,841	$ 62,057
Deferred income taxes	0	118	685	1,254	1,881
Stockholders' equity					
Common stock, $.0001 par value	1	1	1	1	1
Common stock purchase warrant	1,100	1,100	0	0	0
Additional paid-in capital	1,499	1,473	8,010	8,018	8,149
Retained earnings	0	1,121	5,210	12,315	23,269
Less: treasury stock, cost	0	(192)	(236)	(247)	(247)
Total stockholders' equity	$ 2,600	$ 3,503	$12,985	$20,087	$ 31,172
Total liabilities and shareholders' equity	$38,331	$37,513	$43,202	$65,241	$118,140

Reformulated Balance Sheet (*assuming* ‘operating cash’ = $28 million each year)

	1984	1985	1986	1987	1988
OA					
Operating cash	28	28	28	28	28
Acc receivable	8,551	11,719	14,402	27,801	51,076
Inventory	11,109	6,325	9,762	19,577	39,135
Other	1,124	2,250	2,592	2,561	5,496
PPE (net)	17,219	17,182	16,383	14,788	21,548
Total	**38,031**	**37,504**	**43,167**	**64,755**	**117,283**
OL					
Acc payable	3,082	4,724	7,344	15,072	13,288
Accrued liab	3,800	3,091	3,127	5,468	4,710
Taxes payable	2,349	1,145	1,554	2,619	3,782
Deferred tax liability	0	118	685	1,254	1,881
Total	**9,231**	**9,078**	**12,710**	**24,413**	**23,661**
NOA	**28,800**	**28,426**	**30,457**	**40,342**	**93,622**

‘Diagnostics’

	1984	1985	1986	1987	1988
NOA	**28,800**	**28,426**	**30,457**	**40,342**	**93,622**
△NOA	- - -	-374	2,031	9,885	53,280
% △NOA	- - -	-1.30%	7.14%	32.46%	132.07%
Sales		67,654	76,144	128,234	181,123
△Sales		- - -	8,490	52,090	52,889
% △Sales		- - -	12.55%	68.41%	41.24%
Asset turnover (ATO) = Sales / NOA		2.380	2.500	3.179	1.935
‘normal’ ATO = ave 1985 – 1987 = 2.6862					
‘normal’ △NOA = △Sales / ‘normal’ ATO				19,391.40	19,668.84

‘Diagnostics’

	1984	1985	1986	1987	1988
NOA	**28,800**	**28,426**	**30,457**	**40,342**	**93,622**
△NOA	- - -	-374	2,031	9,885	53,280
% △NOA	- - -	-1.30%	7.14%	32.46%	132.07%
Sales		67,654	76,144	128,234	181,123
△Sales		- - -	8,490	52,090	52,889
% △Sales		- - -	12.55%	68.41%	41.24%
Asset turnover (ATO) = Sales / NOA		2.380	2.500	3.179	1.935
‘normal’ ATO = ave 1985 – 1987 = 2.6862					
‘normal’ △NOA = △Sales / ‘normal’ ATO				19,391.40	19,668.84

In sum:

- ✓ while sales growth is similar in 1987 and 1988, NOA increased dramatically in 1988, but not in 1987

- ✓ actual change in NOA is much larger than normal change in NOA in 1988

→ suggests that accrual-based earnings management *might* be a problem

Next step: are there patterns within any of the OA and OL accounts that suggestive of earnings management (EM) behaviour?

‘**Diagnostics**’ (cont)

	1985	1986	1987	1988
A/R Turnover = Sales / A/R	5.773	5.287	4.613	3.546
Inventory Turnover = Sales / Inventory	10.696	7.800	6.550	4.628
pp&e Turnover = Sales / pp&e	3.937	4.648	8.671	8.406
A/P Turnover = Sales/Accounts receivable	14.321	10.368	8.508	13.631
Accrued Liab Turnover = Accrued Liab	21.887	24.350	23.452	38.455

The increase in NOA in 1988 is mainly due to:

- large increase in Accounts Receivable (decrease in receivables turnover)
  - Is provision for doubtful debts understated?
  - Have adequate provisions been made for sales returns?
- large increase in Inventory (decrease in inventories turnover)
  - Is the company struggling to sell its inventory?
  - Is inventory overvalued? Should it be written down?
- sudden build-up in 'Other assets'
- decrease in Accounts Payable: why would it decrease, despite increasing sales?
- decrease in Accrued Liabilities: why would it decrease, despite increasing sales?

These appear to be suspicious changes that are consistent with earnings management (EM)

⇒ any change in NOA that is different than what you might expect should be investigated

✓ it could be 'okay' (defensible / normal)

- extra investment in long-term OAs, such as pp&e or intangibles
- normal growth in short-term OAs, such as A/R and Inventory because of sales growth
- normal decline in OLs due to changes in operating model or better efficiency
- acquisition of another business

✓ it could be a 'problem' (the result of earnings management activity)

- aggressive accrual estimates, resulting in overstated/understated NOA
- look for unusual build-up in accrual accounts, such as A/R, inventory, etc.

*** **the identification of statements materially affected by earnings management activity is critical when deciding whether to rely on the reported financial statements as a basis for developing forecasts of the firm's future financial performance (i.e., its pro forma financial statements)**

The New York Times

SE	Financial Desk; D
HD	**Questions Push Regina Stock Down**
BY	By JONATHAN P. HICKS
WC	710 words
PD	28 September 1988
SN	The New York Times
SC	NYTF
ED	Late City Final Edition
LA	English
CY	Copyright 1988 The New York Times Company. All Rights Reserved.

LP

The chairman of the Regina Company, the vacuum cleaner maker, resigned yesterday, and the company reported that its financial statements for the fiscal year ended June 30 were "materially incorrect."

The chairman of the Regina Company, the vacuum cleaner maker, resigned yesterday, and the company reported that its financial statements for the fiscal year ended June 30 were "materially incorrect."

TD

On the news, Regina's stock plunged $3 to close at $4 a share in over-the-counter trading. It was trading around $17 last week and as high as $27 in July.

The New York Times

SE Financial Desk; D

HD **COMPANY NEWS; Regina Reports $16.8 Million Loss**

BY By JONATHAN P. HICKS

WC 432 words

PD 5 January 1989

SN The New York Times

SC NYTF

ED Late City Final Edition

LA English

CY

LP

The Regina Company, the financially troubled maker of vacuum cleaners, yesterday reported a loss of $16.8 million for the period in which inaccuracies were cited in its earnings by accountants.

The Regina Company, the financially troubled maker of vacuum cleaners, yesterday reported a loss of $16.8 million for the period in which inaccuracies were cited in its earnings by accountants.

TD

The company, based in Rahway, N.J., reported the loss for the 15 months that ended Sept. 30. Regina executives said that the company's decision to issue a 15-month report was based on its desire to present "a clear balance sheet" to shareholders. Regina had earlier announced net income of $10.9 million for the 1988 fiscal year, which ended June 30.

In September, Regina's results for the fiscal year were withdrawn after an audit by Peat Marwick Main & Co. indicated that the results were "materially inaccurate." After that disclosure, the company's chairman, Donald D. Sheelan, resigned. Regina's stock, which traded as high as $27.50 a share in 1988, has fallen drastically in over-the-counter trading. It closed yesterday at $5.25 a share, up 25 cents.

The New York Times

SE	Financial Desk; D
HD	**2 Former Regina Officers Plead Guilty to Fraud Charges**
BY	By ROBERT HANLEY, Special to the New York Times
WC	777 words
PD	9 February 1989
SN	The New York Times
SC	NYTF
ED	Late City Final Edition
LA	English
CY	Copyright 1989 The New York Times Company. All Rights Reserved.

LP

NEWARK, Feb. 8 -- Two former top executives of the Regina Company, a vacuum-cleaner maker, both admitted today that they had mailed falsified 1988 financial statements to investors, brokers and the Securities and Exchange Commission.

Two former top executives of the Regina Company, a vacuum-cleaner maker, both admitted today that they had mailed falsified 1988 financial statements to investors, brokers and the Securities and Exchange Commission.

TD

Under an agreement with Federal officials, Regina's former chairman, chief executive and president, Donald D. Sheelen, pleaded guilty to one count of conspiring to commit mail fraud and securities fraud. The former chief financial officer, Vincent P. Golden, pleaded guilty to one count of mail fraud.

The New York Times

SE	Financial Desk; 1
HD	**Electrolux Gets Regina's Assets**
WC	243 words
PD	20 May 1989
SN	The New York Times
SC	NYTF
ED	Late City Final Edition
LA	English
CY	
LP	

The Electrolux Corporation of Marietta, Ga., announced yesterday that it had agreed in principle to acquire the assets and business operations of the Regina Company, the Rahway, N.J., vacuum cleaner maker that sought Chapter 11 bankruptcy protection in April.

The Electrolux Corporation of Marietta, Ga., announced yesterday that it had agreed in principle to acquire the assets and business operations of the Regina Company, the Rahway, N.J., vacuum cleaner maker that sought Chapter 11 bankruptcy protection in April.

TD

The two companies said the proposed transaction was valued at $65 million to $70 million and included Electrolux's assumption of Regina's leases and about $16 million of the company's industrial development bonds.

PART 7 – Fair Value

To re-iterate,

“Earnings management occurs when managers use **judgment in financial reporting** and in structuring transactions to alter financial reports to either **mislead** some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.” (Healy & Wahlen, 1999)

- most earnings management is initiated by the senior management (e.g., CEO, CFO)
- *why* do managers (e.g. CEO, CFO) engage in earnings management? – two basic drivers (Healy and Wahlen):

Valuation: an attempt to mislead investors (shareholders) into believing that the company is performing better, or is less risky, than it would appear without the earnings management in hopes of achieving a higher share price

Contracting: an attempt to manipulate a contractual outcome that depends on accounting numbers, most typically compensation contracting (incentive bonuses based on accounting figures) and debt contracting (covenants based on accounting numbers)

Major types of earnings management:

- **Manipulation of accrual estimates**, e.g., underestimate Provision for Doubtful Debts; underestimate Provision for Warranty Expenses
- **Manipulation of accounting policies**, e.g., changing depreciation method to one that involves a lower expense; changing from cost to fair value method for an asset that has increased in value
- **Manipulation of fair value estimates**, e.g., overestimating fair value of an investment
- **Changing the timing of transactions**, e.g., delaying spending on R&D or advertising until the next year
- **Transaction structuring**: complex forms of earnings management that usually exploit loopholes in accounting rules by entering specially designed transactions

Earnings management activity is restricted by:

- external auditor (note – only provide ‘reasonable assurance’)
- internal auditor (but can be pressured)
- regulation and regulators (including fines, shareholder lawsuits, and imprisonment)
- board of directors oversight (governance)

Finally, the possibility of manipulating fair value (FV) estimates:

- under AASB / IFRS, there are two measurement methods – historical cost & fair value
- historical cost is typically viewed as more reliable but less relevant
  - with 'historical cost', the two accounting quality concerns are depreciation and impairment
- 'fair value' defined under AASB 13 as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date"
  - the reliability of a 'fair value' measure depends primarily on how it is determined
  - the estimate (and thereby its integrity) will also affect NPAT or CI (depending on whether the change in FV is recorded in the I/S or in OCI)

- AASB 13 (IFRS 13) defines three levels of fair value from most to least reliable:
  - “Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date.”
  - “Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.” (i.e., “quoted prices for similar assets or liabilities in active markets”)
  - “Level 3 inputs are unobservable inputs for the asset or liability” (i.e., internal estimates)

**clearly, Level 3 fair values are to ones that should be viewed with the greatest scepticism

Illustration – Harvey Norman's financial assets and liabilities (Levels 1 and 2)

Year ended 30 June 2018 CONSOLIDATED	Quoted market price (Level 1) $000	Valuation technique – market observable inputs (Level 2) $000	Valuation technique – non market observable inputs (Level 3) $000	Total $000
Financial Assets				
Listed investments	46,848	-	-	**46,848**
Forward currency contracts	-	5	-	**5**
Total Financial Assets	**46,848**	**5**	**-**	**46,853**
Financial Liabilities				
Forward currency contracts	-	52	-	**52**
Total Financial Liabilities	**-**	**-**	**-**	**52**

Quoted market price represents the fair value determined based on quoted prices on active markets as at the reporting date without any deduction for transaction costs. The fair value of the listed equity investments are based on quoted market prices and are included in level 1.

The fair value of financial instruments that are not traded in an active market is determined using valuation techniques. Forward currency contracts are measured using quoted forward exchange rates. These instruments are included in level 2.

Illustration (cont) – Harvey Norman's property holdings

Net Property Revaluation Adjustments

The investment property portfolio in Australia and properties held in joint venture entities are subject to a semi-annual review to fair market value. At each reporting period, one-sixth of the investment property portfolio is independently valued with the remaining five-sixths reviewed for fair value by Directors. The entire portfolio is independently valued every three years.

During the year ended 30 June 2018, thirty-seven (37) sites within the investment property portfolio in Australia were independently valued, representing 28.5% of the total number of sites and 22.6% of the fair value of the investment property portfolio in Australia. The balance of the portfolio was reviewed for comparability resulting in the preparation of internal valuations for twenty-one (21) additional sites. The valuation for the current year resulted in a net increase of $51.05 million relating to investment properties in Australia compared to a net increase of $107.38 million in the previous year. The prior year figure had included the impact of rezoning potential to medium-density residential for a property in NSW.

→ Harvey Norman's property holdings are measured at 'fair value' and recognised through profit and loss under AASB 140 Investment Property

key concern ≡ *what* is the quality of these fair value estimates? As revealed through Note 15, the revaluations are 'Level 3' ➔ internal estimates

15. INVESTMENT PROPERTIES (continued)

(b) Fair value measurement, valuation techniques and inputs

Class of property	Fair value hierarchy	Fair value June 2018 $000	Valuation technique	Key unobservable inputs	Range of unobservable inputs
Retail	Level 3	2,195,894	Income capitalisation	Net market rent per sqm p.a. Capitalisation rate	$68 - $277 per sqm p.a. 6.5% - 10.0%
			Discounted cash flow	Terminal yield Discount rate	6.0% - 10.0% 6.8% - 10.5%
			Direct sale comparison	Price per sqm of lettable area	$715 - $3,533 per sqm
Warehouse	Level 3	196,153	Income capitalisation	Net market rent per sqm p.a. Capitalisation rate	$19 - $189 per sqm p.a. 7.0% - 10.0%
			Discounted cash flow	Terminal yield Discount rate	6.8% - 9.3% 7.0% -10.3%
			Direct sale comparison	Price per sqm of lettable area	$645 - $2,208 per sqm
Office	Level 3	35,500	Income capitalisation	Net market rent per sqm p.a. Capitalisation rate	$158 - $391 per sqm p.a. 7.2% - 7.8%
			Discounted cash flow	Terminal yield Discount rate	6.3% - 7.8% 6.3% - 8.3%
			Direct sale comparison	Price per sqm of lettable area	$2,151 - $5,216 per sqm
Property for development	Level 3	1,850	Direct sale comparison	Price per sqm of lettable area	$180 per sqm
Total		**2,429,397**			

Ernst & Young's audit report included the following Key Audit Matter:

3. Valuation of investment properties and owner-occupied properties

Why significant	How our audit addressed the key audit matter
Investment properties and owner occupied properties (properties) represent 62.5% of the total assets as at 30 June 2018. Investment properties are carried at fair value with changes in fair value recognised in the income statement. Note 1(vii) and Note 15 of the financial report, describes the basis upon which fair value has been determined. Owner-occupied properties, represented as Land and Buildings, are carried at fair value, with changes in fair value recognised in equity. Note 1(v) and Note 14 of the financial report, describes the basis upon which fair value has been determined. The Group engages independent external valuation experts to conduct valuations of each property at least once every three years. Directors' valuations are performed where the Group identifies a material change in the fair value of properties not selected for external valuation may have occurred during the year.	Our audit procedures included the following: ▶ We assessed the Group's accounting policies with respect to investment properties and owner-occupied properties for compliance with the relevant Australian Accounting Standards. ▶ We assessed whether we could rely on the work of those responsible for the Directors' valuations and the work of the independent valuation experts by considering their competence, capabilities and objectivity. ▶ We selected a sample of the property valuations performed by both independent valuation experts and the Directors and assessed the reasonableness of the key assumptions (as disclosed in Note 14 and Note 15) used in the valuations with reference to external market evidence. This work included the involvement of Ernst & Young real estate valuation specialists in its execution. ▶ We considered the adequacy of the disclosures included in Note 1, Note 14 and Note 15 of the financial report.

key concern ≡ *what* is the quality of these fair value estimates?

- they are all Level 3 fair values → fair values are based on internal estimates, rather than observable market prices

- Harvey Norman does use an independent valuation expert (unnamed?) to check the valuations.
  - the independent valuer checks the valuation of each property at least once every three years.
  - the auditor (EY) has also randomly checks valuations and discusses the issue as a key audit matter

Interpretation of the reliability of these estimates is ultimately a matter of judgement !!

PART 8 – 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 Statements*

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

Industry dynamics

→ Porter's five forces

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

Analysis of Financial Statements

- understanding current F/S ✓
- re-formulating the F/S ✓
- accounting quality ✓
- ratio analysis ** Sessions #9 & #10

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