

Financial Accounting

RECONCILE = REVERSE ENGINEER

5 Challenges of Accounting:

- Bookkeeping
- Judgment
- Computation
- Usage
- Search

Key Concepts:

- Conservatism
- Materiality
- Comparability
- Verifiability
- Revenue Recognition
- Matching Principle
- Others: Fiscal Per., Going Con.

Balance Sheet Equation: Assets = Liabilities + Equity

$$\Delta \text{Cash} - \Delta \text{Equity} = \Delta \text{Accruals}$$

Statement of Retained Earnings
Beginning Balance
+ Net Income
- Dividends Paid
= Ending Balance

Revenue Recognition Conditions

Completion of signif. Portion of prod. And sales effort
Objectively measurable amount of revenue
Major portion of costs incurred; remaining reasonably estimable
Eventual collection of cash is reasonably assured

Accounts Receivable Journal Entries

Inventory
Beg. Balance
+ Purchases
- COGS
= End Balance

	Cash	+ AR	- ADA	=	+RE
Beg. Balance		2000	400		
Revenue	← Sales	1000			1000
Bad Debts			200		(200)
Write Offs		(150)	(150)		
Reinstate/Collect	50	50 (50)	50		
End Balance		2850	500		

Principles of Measurement:

- Objectivity: verifiable and reliable
- Matching: costs against benefits
- Revenue Recognition: conditions
- Consistency: over time

Lower of Cost or Market Rule

- Loss on Inv Writedown added to COGS
- This LOSS = Cap.Cost – Mkt. Value
- Mkt.Val = min.(Replacement C, Selling P)

Accounting for Inventory (Rising Price Environment) *

1. LIFO COGS > Averaging COGS > FIFO COGS
2. LIFO Inv (EB) < Averaging Inv (EB) < FIFO Inv (EB)
3. LIFO Reserve = FIFO Inv (EB) – LIFO Inv (EB)
4. Δ LIFO Reserve = COGS (LIFO) – COGS (FIFO)
5. NI (FIFO) = NI (LIFO) + LIFO Reserve x (1-t)
6. Cumulative Tax Savings = Tax Rate x LIFO Reserve
7. Period Tax Savings = Tax Rate x Δ LIFO Reserve
8. LIFO Conformity Rule: LIFO taxes → LIFO GAAP
9. COGS (LIFO) + LIFO Inv (EB) = COGS (FIFO) + FIFO Inv (EB)

PP&E Reverse Engineering – Barnes & Noble 1997

	Cash	PP&E	- Acc.Dep	=	+ RE	Comment
Beg. Balance		616,757	181,983			Balance Sheet
Purchases of PP&E	-121,903	121,903				Purchase of PP&E from CFI
Sale/Disposal of PP&E	0	Solve(1)	Solve(2)		-853	Proceeds from sales PP&E CFI Loss(gain) on disposal of PP&E CFO
Depreciation Expense			Solve(3)		Solution (3)	
End Balance		726,337	244,207			

- Solve (2) is the Acc. Depr. on sold PP&E
- Solve (3) is depreciation expense as opposed to depreciation and amortization # on SCF

Indirect Statement of Cash Flow

Operations	Investing	Financing	Total Cash Flow
Net Income			NI separate from CFO
	Δ Net PP&E	Δ NCL	
+ Depr. Exp.	+ Gain	+ Δ CC	
- Δ Net A/R	- Loss	- Dividends Paid	
- Δ Inventory	- Depr. Exp.		
- Δ OCA	- Δ ONCA		
+ Δ CL	+ Δ OE		
- Gain			
+ Loss			
= Δ CFO	= Δ CFI	= Δ CFF	= Δ Cash

Financial Accounting

RECONCILE = REVERSE ENGINEER

Activity Based Costing Example *

Facts:

- Two products: valve & pumps
- Two overhead cost pools: set-up labor & machine usage
- Set up labor cost for year \$2,668
- Depreciation cost for year \$4,000
- Maintenance cost for year \$1,880
- Total overhead for year \$8,568
- Total set-up labor hrs year 167 hrs
- Total machine usage during year 840 hours

Problem:

Determine the unit cost for valves and pumps

	Valves:	Pumps:
Direct Costs (\$/unit)	20.00	28.00
Set-up Labor (hrs/unit)	0.25	0.50
Machine Usage (hrs/unit)	2.0	1.0

Steps:

1. Calculate machine overhead = Depreciation \$4000 + Maintenance \$1,880 = \$5,880
2. Machine overhead per machine hour = Machine overhead / Total Machine hours = \$5,880/840 = \$7
3. Set-up overhead per set-up hour = Set-up labor \$2,668 / Total set-up hours = \$2,668/167 = \$16
4. Valves Unit Cost: Direct Cost \$20.00 + Machine O/H (\$7 x 2.0) + Set-up O/H (\$16 x 0.25) = \$38
5. Pumps Unit Cost: Direct Cost \$28.00 + Machine O/H (\$7 x 0.50) + Set-up O/H (\$16 x 1.0) = \$43

Lessons from Cost Cases:

- Cost Accounting involves a great deal of judgment (not subject to rules or standards such as GAAP)
- Different Cost systems can lead to different decisions (Siemens)
- Cost systems can become obsolete (Seligram and Siemens) (Tech, product mix, client base)
- A system that makes very accurate cost allocation in a timely fashion can be too expensive
- Trade-off: Benefits of more accurate information and the costs of obtaining this info (NuTone)
- Key stakeholders can block the implementation of new cost systems (NuTone)
- BU managers often complain that overhead allocation is hurting the performance of their businesses

Marketable Securities *

- Investment must be readily marketable (convertible to cash on demand)
- Management must intend to convert the investment within the time period of the assets
- Trading: principal purpose of selling in near future with objective of generating short-term profit (CA)
- AFS: not listed as trading, either CA or NCA

Available-for-Sale Securities	Cash	Cost	Valuation Allowance	=	Retained Earnings	Other Equity	
Beg. Balance		79,000	(1700)			(1700)	
6/8/00 Purch. Keebler Securities	(50,000)	50,000					CFI
10/10/00 Sold Elves Securities	35,400	(37,000)	2,800		(1,600)	2,800	CFI
12/31/00 Val. Allowance Keebler			800			800	BS (net)
12/31/00 Val. Allowance Frosty			(400)			(400)	BS (net)
End. Balance		92,000	1,500		(1,600)	1,500	Carry 93,500 on BS

Trading Securities	Cash	Cost	Valuation Allowance	=	Retained Earnings	Other Equity	
Beg. Balance		79,000	(1700)				
6/8/00 Purch. Keebler Securities	(50,000)	50,000					CFI
10/10/00 Sold Elves Securities	35,400	(37,000)	2,800		1,200		CFI
12/31/00 Val. Allowance Keebler			800		800		IS (net)
12/31/00 Val. Allowance Frosty			(400)		(400)		IS (net)
End. Balance		92,000	1,500		1,600		Carry 93,500 on BS

Income Taxes: Income Tax Expense – Income Tax Payable > 0 (DTL) or < 0 (DTA)

Financial Statement Income Before Taxes (from IS)				
+/- Permanent Differences				
= Adjusted Income with Perm Differences		Income Tax Expense	=	Adj. Income x ETR
+/- Temporary Differences		= Deferred Tax Expense	=	Temp. Diff x ETR
= Taxable Income		+ Taxes Payable	=	Tax. Income x ETR

ETR = Effective Tax Rate = Income Tax Expense (per Financial Statements) / Pretax Income

Deferred Taxes = Δ Deferred Tax Liabilities - Δ Deferred Tax Assets - Δ Deferred Tax Liabilities due to AFS

Δ Deferred Tax Liabilities due to AFS = Δ Unrealized Gains x Tax Rate

Also: NOL carryback, NOL carryforward and Valuation Allowances; Dividends received are not taxable

DTA → Financial Expenses > Tax Expenses ; DTL → Financial Expenses < Tax Expenses

Valuation Allowance: DTA down = RE up

Bonds *

Financial Accounting
RECONCILE = REVERSE ENGINEER

Date	Cash	=	Bond Payable	Premium or Discount	RE	
Issue	Proceeds		Face Value	(Discount)		Disc = FV – Proc.
Intermittent				Discount Accrual	(Interest Expense)	IE = (Bond Payable Bal. + Discount Bal.) x Effective Rate; Discount Accrual = Interest Expense
Maturity	Par Value		Par Value			

Leases: *

- Operating – lessor bears risk
- Capital – lessee bears risk
- Capital – lease capitalized

Criteria for Lease Capitalization: (Any of the following)

- Essential transfer of ownership at end of lease term (BPO)
- Min. PV of lease payments (incl. BPO) at least 90% of asset's Mkt. Val.
- Lease term is at least 75% of asset's remaining useful life

Operating Lease:

Transaction	Cash	Prepaid Rent	=	RE
Pmt. In Adv.	(ADV)	ADV		
Lease Pmt.		(Rent)		(Rent)
OR				
Pay when due	(Rent)			(Rent)

Capital Lease:

Transaction	Cash	Leased Property	Accum. Depr.	=	Lease Oblig.	RE	
Lease Inception		Mkt. Val.			Mkt. Val.		PV of lease payments
Lease Pmt.	(Lease Pmt)		Depr. Exp.		(Reduction)	(Int. Exp.) (Depr. Exp.)	IE = Int. Rate x Current Book Value of Lease Obl.; Reduction = Lease Payment – Interest Expense; Depreciate over the Life of the Lease

NB: If any lease payment in advance, this goes straight to the reduction of the lease obligation.

Selling goods with the right of return

Transaction	Cash	Inventory	=	Deferred income	R.E.
Goods delivered and invoice paid	\$50,000	\$(30,000)	=	\$50,000	\$(30,000)
Client returns half shipment	\$(25,000)	\$15,000	=	\$(25,000)	\$15,000
Return period expires			=	\$(25,000)	\$25,000

Deferred income = Defer.rev. = Unearned rev. ⇒ Liability reflecting services yet to be performed for which cash has been collected

LIFO Liquidations:

- Decrease COGS LIFO → Increased II
- Decrease LIFO Reserve
- Decrease Turnover Ratio

Readily marketable securities must be carried on the B/S at current market value (market-to-market rule)

Transaction	Trading securities			Available for sale securities		
	Cash	Trading sec.	R.E.((Un)realized G/L)	Cash	AFS sec.	S.E.((Un)realized price inc/dec)
Buy securities	(100)	100		(100)	100	
Receive dividend	10		10	10		10
Revalue securities		20	20		20	13 (*)
Sell at \$110	110	(120)	(10)	110	(120)	(6.5) (*)

(*) Note: Gains/losses on AFS sec. are accounted for NET of taxes. Assume t = 35%. The rest corresponds to DTL.

- Reclassification from Trading to AFS: G/L recognized on reclassification date
 - Reclassification from AFS to Trading: Cumulative G/L (including current period) recognized on reclassification date
- Portfolio_{BB} = Portfolio_{EB} + Sales (Proceeds) – Purchases – Realized gains – Unrealized holding gains

Accounting for contingencies

Probability	Loss contingencies		Gain contingencies	
	<u>Measurable</u>	<u>Not measurable</u>	<u>Measurable</u>	<u>Not measurable</u>
Probable	Accrue	Disclose in notes	Disclose / Accrue(!)	Disclose, avo. misl.inf.
Reasonably probable	Disclose in notes	Disclose in notes	Disclose, avoid misleading inferences	
Remote	None required, but note permitted		Disclosure not recommended	

Accrual of contingencies:

Financial Accounting
RECONCILE = REVERSE ENGINEER

	Contingent asset	=	Contingent liability	R.E.(G/L on contingency)
Suit filed against the company		=	\$10,000	\$(10,000)

Long-term debt

Ordinary annuity/Annuity in arrears: Payments occur at the end of the period
 Annuity due/Annuity in advance: Payments occur at the beginning of the period
 Interest expense = (Bond payable balance + Premium (Discount) balance) * Market rate

Example: A firm borrows \$10,000 on 1/1/99 for 2 years at an interest rate of 10%

If it is a regular bond...

Date	Cash	=	Long-term Debt	- Discount	R.E. (Interest Expense)
B.B.	\$10,000	=	\$10,000		
12/31/99	(1,000)				(1,000)
12/31/00	(11,000)	=	(10,000)		(1,000)

If it is a mortgage... ⇒ Equal payments (annuity) along the life of the loan

Date	Cash	=	Long-term Debt	- Discount	R.E. (Interest Expense)
B.B.	\$10,000	=	\$10,000		
12/31/99	(5,761.90)		(4,761.90)		(1,000)
12/31/00	(5,761.90)	=	(5,238.10)		(523.81)

If it is a zero coupon bond... ⇒ Include total interest both as a liability and as a discount. Interest reduced discount.

Date	Cash	=	Long-term Debt	- Discount	R.E. (Interest Expense)
B.B.	\$10,000	=	\$12,100	\$2,100	
12/31/99				(1,000)	(1,000)
12/31/00	(12,100)	=	(12,100)	(1,100)	(1,100)

BSE:

Assets		=	Liabilities + Shareholders' Equity	
Cash			Accounts Payable	
Marketable Securities at hist. Cost			+ Notes Payable	
+/- Unrealized Gains/Losses (unless it is held-to-maturity debt investment)	<i>Equity or Income A/C</i>		+ Accrued Expense Liabilities & Other	Matching Typically SG&A
Gross A/R	← <i>Net</i>		+ Deferred Tax Liability	
- Allowance for bad debts & returns	<i>A/R</i>		+ Long Term Debt	
+FIFO Inventory	← <i>Historical</i>		+ Paid-in Capital	
- LIFO Reserve	<i>LIFO</i>			
- LCM Adjustment				
+ Gross PP&E	← <i>Historical</i>		+ Valuation Adjustments	Unrealized gains and losses not recorded directly to income incl. AFS securities.
- Accumulated Depreciation	<i>Net</i>			
- Permanent Write-Downs (LCM rule)	<i>PP&E</i>			
+Gross Intangibles (Patents, Goodwill, etc.)	← <i>Hist.</i>		+ Retained Earnings	Transfer from income summary to retained earnings. Dividends declared reduce RE with an offset to dividends payable
- Accumulated Amortization	<i>Net</i>			
- Permanent Write-Downs (LCM)	<i>Intangibles</i>			
+ Deferred Tax Asset				
+ Other Asset				
= Total Assets			= Total Liabilities & Shareholders' Eq.	

SFAS 86: Software development costs will be expensed as R&D until a product's technological feasibility is established. After that, all software production costs should be capitalized and subsequently reported at the lower of unamortized cost or net realizable value, amortized based on current and future revenues for each product with an annual minimum equal to straight-line amortization over the product's economic life.