* Balance Sheet Eqn *

Assets = Liabilities + Shareholders Equity

Income Statement Eqn

Net Income = Revenue − Expense + Gain − Losses

↳ Revenue arrises from firms goods or services

↳ Expenses → outflow of cash used to generate revenue

↳ Gains/Losses → inflow & outflow of assets not in regular course of business

Linking Balance Sheet & income statement

End R/E = Begin R/E + Net Income − Dividends

*NOTE: Dividends Won't affect income statement

Revenue Recognition

1. Is there contract?
2. Determine Performance obligation?
3. Determine Price
4. Transaction Price
*5. Recognize only if obligation fulfilled

↳ if nothing done yet its called executory contract → Not recorded

How to recognize revenue & expense

Revenue:

	Today		Future	
cash concurrent w/ revenue	+ (cash)	+ (R/E)		
cash before earning rev	+ (cash)	+ (Def. Rev)	− (Def Rev)	+ (R/E)
cash after earned rev	+ (A/R)	+ (R/E)	+ (cash)	− (A/R)

Expenses:

cash paid while using	− (cash)	− (R/E)		
cash paid before using	− cash	+ (prepaid asset)	− (prepaid asset)	− R/E
cash paid after use	+ Account Payable	− R/E	− Cash	− Account Payable

Event Recording Practice

1. owners contribute 24K
2. rents warehouse for 2yrs for 12K
3. Purchases $10K inventory on account
4. Sold half for $24K (20K cash, 4K in A/R)
5. Pays $6,000 wages. Accrues 4K in wage
6. gets 6K advance for future goods
7. Pays dividend of $1000

1) +24K cash +24K cont. capital
2) −12K cash +12K prepaid cash
3) +10K inventory −10K A/P
4) +20K cash +4K A/R −5 inventory +19 R/E
5) −6K cash +4 A/P −10 R/E
6) +6K cash +6K def rev
7) −1K (cash) −1K R/E

Allowance for Bad Debts

↳ contra-asset to A/R we believe will go unpaid

by
1. % of sales
2. % of current A/R

Accounting:

1. Accruing Bad Debts: + (Allowance for D/A on A/R) − (R/E)
2. write-off: − A/R − (Allowance for D/A on A/R)

15.501 Exam #1 Cheat Sheet

Relevant Equations:

Accounts Receivable (Asset)

Beginning Balance
(+) Credit sales
(−) cash collected
(−) Amount written off
Ending Balance

Allowance for D/A on A/R (contra-Asset)

Beginning Balance
(+) Amounts recorded as bad debt expense
(−) amount written off
Ending Balance

Correcting for over/under estimating allowance

if too much allowance: (−) Allowance for D/A (+) R/E

if too low allowance: (+) Allowance for D/A (−) R/E

* Inventory Equation *

Beg. Inventory + Additions − COGS = Ending Inventory

** LIFO vs. FIFO *

• These are two contrasting Cost Flow-Assumptions

LIFO: Last in, First out

FIFO: First in, First out

*Choice between either effects COGS

• Under LIFO → use cost of goods received most recently

• Under FIFO → use cost of Goods in order which they were received

Switching between LIFO & FIFO

LIFO RESERVE = Ending Inv. FIFO − Ending Inv. LIFO

*LIFO Reserve numbers found in Inventory Footnote

Change in LIFO Reserve = $COGS_{LIFO} - COGS_{FIFO}$

Accounting For Depreciation

Need to Know 3 things:

1. Acquisition Cost
2. Estimated Salvage Value
3. Expected useful life

"straight-line method"

Depreciation Expense per Year = $\dfrac{\text{Acquisition cost} - \text{Salvage Value}}{\text{Useful life}}$

* You Place Depreciation in contra-asset account titled Accumulate Depreciation

Recording Gain/Loss on PP&E Disposal

1. Record cash recived for PPE
2. Record Disposal of asset
3. cash − (cost − Acc. dep) = Gain/Loss

↳ Record in R/E

change in salvage value or useful life midway

• we account for change prospectively

↳ calculating new depreciation rate w/ remaining time left

Acquisition Accounting

• under Purchase Accounting the entire acquisition payment is added to acquirer's Balance sheet

1. Fair Value of Net Assets
2. Identifiable Intangibles
3. Goodwill

Purchase Price = { Goodwill / Identifiable Intangibles / Fair value greater than BV Assets / BV of Net Assets }

Cash	FV Assets	Ident. Intang	Goodwill	= Liabilities
−$	+$	+$	+$	+$

Recognizing Goodwill Impairment

1. If FV < BV → compare Fair value of Goodwill to Book value

If Impairment: ↓Goodwill ↓R/E

Lower of Cost or Market (LCM)

• If Market Value < Book Value

1. Reduce Book value of asset
2. Recognize loss on the income statement (↓ R/E)

• If Market Value > Book Value

↳ no correction is made (conservative accounting)

* One set of Assets have different standard: Financial Assets

Marketable Securities

1. Corporate Bonds
2. Common Stock
3. Gov Bonds

Two Relevant Questions going forward:

1. Should changes in market value be recorded on Balance sheet
2. Should it be recognized on I/S

Categories of marketable securities

1. Held-to-maturity → acquired w/ intent to hold to maturity

2. Trading Securities → Acquired for short-term profit potential

3. Available for sale → securities not defined as above

	B/S Effect	I/S Effect
Held-to-Maturity	no	
Trading Securities	yes	no
Available for sale	yes	yes

Example: Marketable securities

1. Octel trades at $25/bond. Ace acquires 1,000 bonds
2. Ace recieves $250 in Interest
3. Octell trades at $30 a bond
4. Octel trades at $27 a bond
5. Octel trades @ $36, Ace sells all

New Shareholder Equity Account: other comprehensive Income

→ Records Gains/Losses on "available for sale" Market securities

Treated as Trading security

- Recognize all gains equally

Treated as "For-sale" security

- Price change → other Income
- Final sale → Real gain Acc OthInc gain

Held to Maturity → No change

Balance Sheet Elements

Assets	Liabilities	E/E
1. cash	1. bonds	1. contributed capital
2. A/R	2. Def. Rev	2. R/E
3. Prepaid Assets	3. Accounts payable	
4. PP&E		3. other contributed income
5. Inventory		
6. Good will		

contra

1. Acc. Dep.

2. Allowance for D/A on R/A

3.

15.501 Cheat Sheet #2

Statement of Cash Flow

- Measure of liquidity for use of business objectives

Adjustments to Net income

(+) Add back depreciation expense
(+) Add back stock based compensation
(+) Add back goodwill impairment
(+/-) gains or losses on investment activities
(+) add back write-offs

Adjustment to achieve operating cash flows

(-) subtract inventory Increase
(-) subtract accounts receivable increase
(+) add back accounts payable increase
(+) add back accrued expenses increase
(+) Additions to unearned revenue

adjustments to achieve Investing cash flow

(-) subtract purchase of PP&E
(-) Acquisitions
(+) Proceeds from sale of Marketable securities
(-) Purchase of Marketable securities

adjustments to achieve Finance cash flows

(+) issuance of Common/preferred stock
(-) Payments on loans
(-) payments of Dividends

Constructive Liability

- Arises from intent of a company to charge themselves

Year	cash +	PP&E =	Restructure +	R/E
(1)			+90,000	-90,000
(2)	-8,000		-8,000	
(3)	-12,000	-70,000	-82,000	

Long-Term Debt

- what is PV of lump sum of 100$ received 3 yrs from now? at annual rate 8%?

PV of Lump sum: $\frac{\text{Principal}}{(1+R)^t}$

PV of annuity: $[1-(1+r)^{-t}] * \frac{1}{r}$

Bonds & Bond Terminology

- If at Issuance

1. Market Rate = Coupon Rate → Bond sells at par value
2. Market Rate > Coupon Rate → Bond sold at Discount
3. Market Ratio < Coupon Rate → Bond sold at Premium

Terminology:

Par Value → stated value of Bond (amount due at Maturity)

Maturity → Date the firm must pay back principal

Coupon Rate → Interest Rate stated on bond

Zero-coupon Bond → Bond Does not make Periodic Payments

Accounting for bond issued at par Value

- Bond issued w/ a maturity costing 3 years; Price is $10,000, Market Interest = 6%

Cash (A) =	Bonds Payable +	R/E
+10,000	+10,000	
-600		-600
-600		-600
-10,600	-10,000	-600

Accounting for Zero-coupon Bond

- Same scenario as above

cash (A) =	Bonds Payable (L) -	Discount (contra-liability) +	R/E
+$10,000	+$11,910	+$1,910	
		(600)	(600)
		(636)	(636)
		(674)	(674)
-11,910	(-11,910)		

Accounting for Premium Bond

- Bond costs $10,000, Maturity of 3 years
Coupon Rate = 8% | Effective Rate = 6%

Issue Proceeds: 800 * (1$ annuity, 3 years, r=0.06) + 10,000 (PV of $1, 3 yrs, 6%) = $10,535 → premium of principle when issued

cash =	Bonds Payable +	Premium +	R/E
$10,535	$10,000	535	
-$800		$168	-$632

Early Retirement of debt

- Market Price of Bond reflects credit quality & interest rates

Example: we repurchase zero coupon bond w/ existing Balance

Bonds Payable	-(Discount)	& Market Rate = 7%
$11,910	$1,310	

one year has passed

$[\$11{,}910 / (1.07)^{2}] = \$10{,}403$ less than Book value

cash =	Bonds Payable	-Discount +	R/E
-10,403	-11,910	+1310	+197 (gain)

- If pay more than Book value → Record Loss
- If pay less than Book Value, Record Gain

Leases: Capital vs. Operating

Balance Sheet Effects:

Operating
(-) cash
(-) Rent expense

Capital
- Lease Asset Created
↳ depreciated over time
- Lease Liability created
↳ reduced as payments made

Example: Capital Lease

- Capital lease requires 5 annual payments of $4750, 5 year useful life & zero salvage value, Rate is 6%

Cash +	Lease Asset =	Lease Liability +	R/E
	+20,000	+20,000	
-$4750		-3,550	-1200
	+4K acc Dep		-4K

Example: Operating Lease

- 3 annual payments of $5,000

Cash	R/E
-$5,000	-$5,000

Common Stock

- Basic residual ownership of a corporation

1. Par Value → stated value on face of a security
2. Additional Paid in Capital
↳ Difference between capital raised & par value

Treasury Stock

- Common stock company holds

Scenario 1: Company purchases 100 shares

cash	(-) treasury stock
-$500	+ 500

scenario 2: company pays dividends

cash =	Dividends Payable +	R/E
	+2000	-2000
-2000	-2000	

Taxes

- There exists timing differences between Financial & Tax Accounting
- Tax Expense ≠ cash taxes Paid

Deferred Tax Liability

- A deferred tax liability arises when

Pretax Income > Taxable Income

Example

- Cooke buys $100K asset in the beginning of 2010

Financial Reporting

Asset Life: 2 years
Dep Rate: Straight-line
Salvage value: $0

tax Reporting

Asset life: 1 year
Dep Rate: 100%, 0%
Salvage value: $0

Tax Depreciation Expense	Financial Dep expense
100,000 (Rev)	100,000 (Rev)
-100,000 (Dep)	- 50,000 (Rev)
= 0 (NI before tax)	= $50,000 (NI before tax)

- tax rate is 30%

Year 1 Balance Sheet

Assets =	Liabilities +	S/E
	+$15,000 (Deferred Tax Liability)	-$15,000 (Tax Expense)

Year 2 Balance Sheet

Assets =	Liabilities +	S/E
-$30K	-15,000	-15,000

Deferred Tax Asset

- A Deferred Tax Asset arises when

Pretax Income < Taxable Income

- Suppose an Amazon customer pays ($100 cash) for Amazon Prime. Tax Rate is 30%. On (12/31/18) for 2017.

	Financial	Tax
Amazon Income Before taxes For 2018	10 (Rev)	100 (Rev)
	0 (NI)	100 (NI)

Year 1 Balance Sheet

Assets	= Liabilities +	S/E
-30 (cash) +30 (Deferred tax asset)		

Year 2 (Assuming no new cash inflow)

Def Tax Asset =	R/E
-30	-30