Midterm Review

15.501/516 **Accounting**
Spring 2004

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Mar 8, 2004

Exam Structure

- Ques 1:

  Tabular analysis of the effects of various transactions on the balance sheet equation
- Ques 2:

  Revenue recognition and accounts receivables
- Ques 3

  Inventories
- Ques 4

  Cash flow from operations
- Expect to be tested on anything discussed in class

Balance Sheet Equation: Assets = Liabilities + Owner's Equity

- Assets =probable future economic benefits owned by the firm
- Liabilities = probable future economic sacrifices
- Owners' Equity = Assets – Liabilities
  owners' claim = "own" – "owe"
  - (Owners' Equity is sometimes also called shareholders' equity, net book value, or the "residual claim")
- Assets = Liabilities + Owners equity

Changes in Shareholders' Equity

Beginning of year: S. E.

Beginning Paid in Capital

+ new paid in capital

Ending Paid in Capital

Beginning Retained Earnings

+ Net Income

- Dividends

Ending Retained Earnings

End of year: S. E.

Balance Sheet Equation

- Assets = Liabilities + Owner’s Equity
- Key: Every economic event that leads to an accounting entry has two sides
- Given an event and an accounting entry, you should be able to identify the two sides

Contra-Asset Accounts

- Contra asset accounts act like liability accounts – increases are recorded as credits
- Their existence is tied to specific asset accounts
- For example
  - Allowance for Doubtful Accounts (existence tied to Accounts Receivables, a current asset)
  - Accumulated Depreciation (existence tied to depreciable long-term assets like PP&E)
- On the balance sheet, Accounts Receivables is reported net of ADA and PP&E is reported net of Accumulated Depreciation
- Thus, contra-asset balances are not reported on the liabilities side, but as negative numbers on the asset side
- Assets – Contra-Assets (if any) = Liabilities + Stockholders' Equity

Debits and Credits

- Assets = Liabilities + Owner's Equity
- Increases in assets are debits
- Increases in liabilities are credits
- Increases in Owner's Equity (Capital Stock, RE) are credits
- Revenues increase Retained Earnings – Credits
- Expenses reduce Retained Earnings - Debits

Accounting Entries

- Every accounting entry has two sides – a debit and a credit. This is the same point as two slides before

Accounting Entries

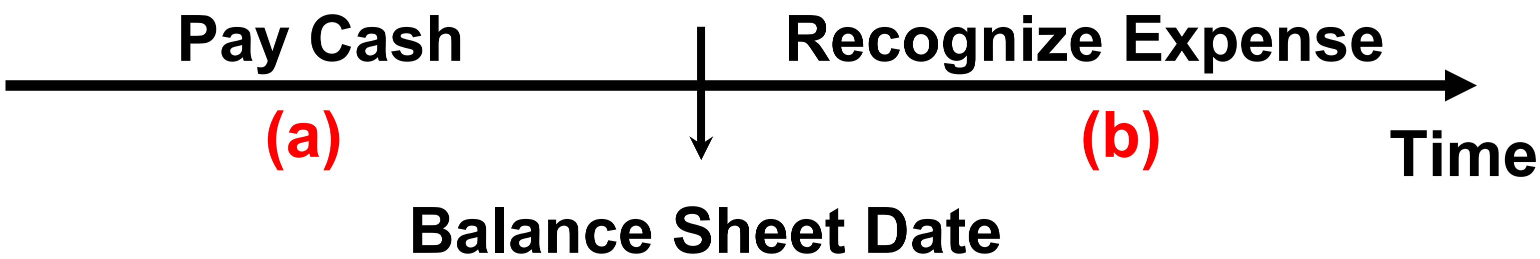
- Two kinds:
  - Transactions based
  - Adjusting entries
- Transactions-based entries record the effects of specific transactions
- Adjusting entries are entries that arise out of the basic principles of accrual accounting
  - Depreciation expense
  - Salaries expense even when employees have not actually been paid
  - Bad debt expense

Basic Principles of Accrual Accounting

- Determine what net income has been *earned* during a period, not just what cash has been generated during the period from operations
  - Why? To capture the economic events that have occurred during the period
- Determine revenues applying the revenue-recognition principles
- Report as expenses those costs that *have been* or *will be* incurred to generate those revenues

Accruals and Cash flows: Four Cases

1) Cash precedes expense



Examples: Rent paid in advance, Prepaid Insurance, PP&E, Inventory

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Associated entries:

	(A)		=	(SE)
	Cash	Prepaid Rent		Ret. Earn.
(a)	–$	+$		
(b)		–$		–$ (rent expense)

Example: Prepaid Rent

- Assume on Jan 1, you pay rent for the next year for @ $1,000 per month

Dr Prepaid Rent (CA)	12,000	
Cr Cash (CA)		12,000

- Say you make adjusting entries at the end of every month. At the end of the first month, on Jan 30th, you would record the following expense:

Dr Rent Expense (RE)	1,000	
Cr Prepaid Rent (CA)		1,000

- The first entry increase a current asset (Prepaid Rent) and decreased Cash
- The second entry decreased Retained Earnings and also decreased a current asset (Prepaid Rent)

Accruals and Cash flows: Four Cases

2) Cash follows expense

Recognize Expense | Pay Cash

(a) | (b) | Time

Balance Sheet Date

Examples: Taxes paid after yearend, Salaries paid on the 15th of the month, bad debt expense, warranty expenses

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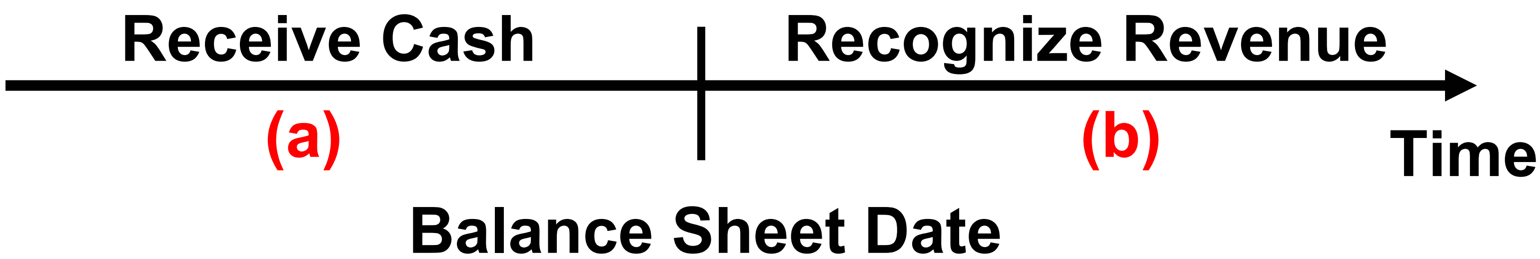
Associated entries:

	(A) =	(L)	(SE)
	Cash	Salaries Payable*	Ret. Earn.
(a)		+$	–$ (salary expense)
(b)	–$	–$	

* sometimes also called "accrued salaries"

Accruals and Cash flows: Four Cases

3) Cash precedes revenue



Examples: Airplane tickets sold in advance
Newspaper subscriptions sold in advance

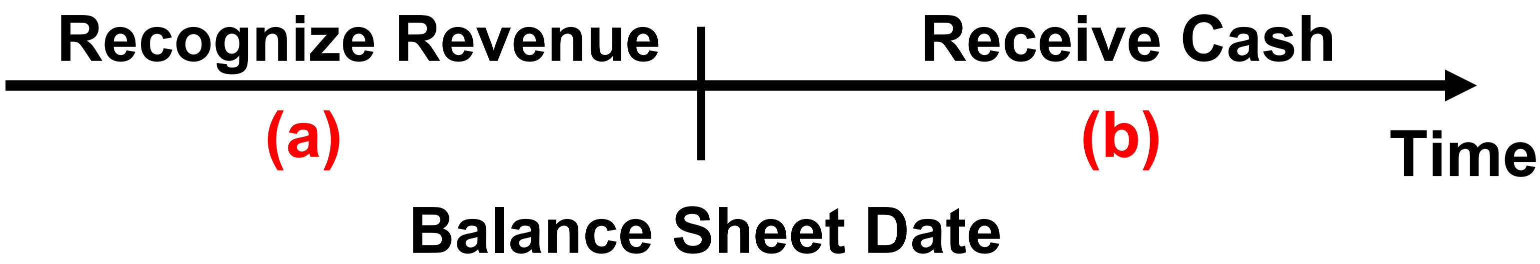
Associated entries:

	Cash	(L) Unearned Revenue*	(SE) Ret. Earn.
(a)	+$	+$	
(b)		–$	$ (revenue)

*sometimes also called "deferred revenue"

Accruals and Cash flows: Four Cases

4) Cash follows revenue



Examples: Accounts Receivable
Goods shipped but cash not yet received
Services provided but cash not yet received

Associated entries:

	(A) Cash	(A) Accounts Receivable	(SE) Ret. Earn.
(a)		+$	+$ (revenue)
(b)	$	–$	

Revenue Recognition

- Revenue recognition principles: Service has been provided by the company, customer has been billed and there is reasonable certainty of cash collection
- Issues in revenue recognition
  - Credit sales
  - Warranties and returns
  - Bill & hold sales, SAB 101

Accounts Receivable

- Not all accounts receivables will be collected in cash
- The balance in Allowance for Doubtful Accounts at the end of the year reflects estimated defaults.
- Bad debt expense is recorded at the end of every period to adjust the balance in ADA to the desired amount

Income Statement and Balance Sheet Relations

Accounts Receivable (A)

Beg Balance Amount of Credit Sales	Cash collected Write-offs
Ending balance	

Allowance for doubtful accounts (XA)

Write-offs	Beg Balance Amount of Bad Debt Expense
	Ending balance

AR and ADA Account Balances

Accounts Receivable (A)

Beginning Balance

- **+ Credit Sales**
- **– Cash Collected**
- **– Net Amounts Written Off**

= Ending Balance

– Allowance For Doubtful Accounts (XA)

Beginning Balance

- **+ Amounts Recorded as Bad Debt Expense**
- **– Net Amounts Written Off**

= Ending Balance

Inventories - The Key Equation

Inventory

Beg. Inventory	Cost of goods sold
Purchases/ Production	
End. Inventory	

- Beg. inventory + purchases/production - COGS = End. inventory

Accounting for Inventory

A Comparison of LIFO and FIFO

	Income Statement	Balance Sheet
LIFO	New costs*	Old costs
FIFO	Old costs	New costs

*if LIFO liquidation old and new costs

Using the "LIFO Reserve": Income Statement

$$EInv_{FIFO} = BInv_{FIFO} + Purchases - COGS_{FIFO}$$

$$EInv_{LIFO} = BInv_{LIFO} + Purchases - COGS_{LIFO}$$

Subtracting these two equations yields:

$$EInv_{FIFO} - EInv_{LIFO} = BInv_{FIFO} - BInv_{LIFO} - (COGS_{FIFO} - COGS_{LIFO})$$

$$EInv_{FIFO} - EInv_{LIFO} - (BInv_{FIFO} - BInv_{LIFO}) = COGS_{LIFO} - COGS_{FIFO}$$

$$\text{End LIFO Reserve} - \text{Beg. LIFO Reserve} = COGS_{LIFO} - COGS_{FIFO}$$

➔Change in LIFO Reserve = LIFO-FIFO difference in COGS

LIFO versus FIFO COGS

- In inflationary economies, in general LIFO COGS will be higher than FIFO.
- There are tax benefits to using LIFO
- Of course, for companies that face declining costs FIFO COGS will be higher: Intel was an example
- If input prices do not change, LIFO COGS = FIFO COGS
- (LIFO COGS excluding the effects of any LIFO liquidation – FIFO COGS) is a measure of difference in COGS under the two methods that is driven solely by changes in input prices

LIFO Liquidation

- Relevant for firms that report LIFO
- Occurs when production < sales
- You are selling out of beginning inventory
- Under LIFO, beginning inventory is at older costs
- Firms disclose LIFO liquidation profits in the footnotes
- Watch out for: whether LIFO liquidation profits are disclosed post-tax or pretax
- LIFO COGS without LIFO liquidation – LIFO costs reported after LIFO liquidation =

  Pre-tax LIFO liquidation profits =

  (Post-tax LIFO liquidation profits)/(1-tax rate)

Cash Flow Statements

- Change in net cash =
  Operating cash flows +
  Investing cash flows +
  Financing cash flows
- Given two, you should be able to work out the third
- Two methods: Indirect and Direct
- For the exam: worry about Indirect

The Indirect Method

- Operating
  - Start with Net Income
  - Make adjustments to arrive at CFO (cash flow from operations or operating cash flows)
- Investing
  - Purchase of PPE and/or other long-term assets (outflows)
  - Proceeds from sale of PPE and/or other long-term assets (inflows)
- Financing
  - Dividends paid (outflows)
  - Issuance of securities (inflows)
  - Retirement of securities (outflows)

Operating Cash Flows (CFO)

- Net Income includes non-cash revenues and non-cash expenses
- These non-cash revenues/expenses usually are captured in changes in operating current assets and operating current liabilities (recall the two-sidedness of all entries)
- Step 1: Identify operating non-cash current assets and operating current liabilities
- Step 2: Identify non-cash revenues or expenses that do *not* affect operating current assets or operating current liabilities (example: Depreciation Expense)
- Step 3:
  - Start with net income
  - Add /(subtract) to it any non-cash expense /(revenue) that does not affect operating current assets or operating current liabilities **
  - Subtract /(add) any increase /(decrease) in non-cash operating current assets
  - Add /(subtract) any increase /(decrease) in operating current liabilities
  - Arrive at CFO

** Sometimes transactions that have cash consequences are similarly adjusted out of the operating section because they are not considered a result of operating activities – do not worry about this yet.

Summary

- Understand how events are translated into accounting reports via the BSE.
- Understand the differences between accrual accounting numbers and cash flows
  - Revenue vs. cash collected
  - COGS vs. purchases vs. cash paid for purchases
  - Reconciliation net income and cash flow from operations