**M1.T1.L1 – Introduction to Financial Accounting**

- Hello, I'm Professor Schneider. I will be your instructor for the Financial Accounting and Managerial Accounting portions of the course. We will begin today's session by talking about the basics of financial accounting, the introduction to it. Financial accounting involves measuring and reporting financial information, but before we can talk about how we measure and how we report, we need to talk about what forms of business organization we measure and report for. The first form is the proprietorship. That's where a business is just owned by a single owner. The second form is a partnership, where a business is owned by more than one owner, the owners being called the partners. Each of these two forms of businesses have a feature in that they are legally not separate from the owners. The business and the owners are legally one entity. And that has implications for liability and taxation. Regarding liability, we have unlimited liability for a proprietorship and a partnership. What that means is that the obligations of the business are the same as the obligations of the owners. So, for example, if a proprietorship borrows money from a bank and is unable to pay back the bank, the bank can go after the owner. With a partnership, if the partnership borrows money from the bank and the partnership does not pay back the bank, the bank can then go after the individual partners. Unlimited liability for the owners. Another feature is that there is no taxation of these businesses. There is taxation of the owners. So, in a proprietorship, the owner pays taxes. In a partnership, the partners pay taxes on their share of the partnership's profits. So, they pay as individuals, cause they are legally the same as the business itself. The other form of business organization is called the corporation. A corporation is a legal, separate entity from its owners. The way a corporation begins is, people that want to form a corporation, they choose a state in which they want to file articles of incorporation. They then file those articles and in exchange for contributing things like cash or equipment or inventory to the business, they receive shares of stock, which entitle them, as shareholders, to elect a board of directors. After they elect a board of directors, the board of directors then makes the major policy decisions of the corporation, including hiring the top managers who just run the day to day operations of the corporation. Now the corporation, because it is a legal separate entity from the shareholders, has limited liability. At least, the shareholders have limited liability. And that is that if the corporation borrows money from the bank and is unable to pay the bank, the bank can not go after the shareholders. Now, regarding taxation, the corporation does pay taxes as its own entity and then, when the corporation distributes its earnings to the shareholders, the shareholders pay taxes again as individuals. So, there's actually double taxation in a corporation. Now, that's a disadvantage of a corporation, but that's really outweighed by the major advantage of having limited liability. So, the most dominant form of business in the US is the corporation and as such, when we discuss financial accounting here, we'll be focusing on corporations. Corporations can be publicly traded on stock exchanges such as the New York Stock Exchange, the American Stock Exchange, or Nasdaq, or they can be privately held. Let's now talk about some of the underlying assumptions of financial accounting. First assumption is the separate entity assumption. We just talked about how, in a partnership or proprietorship, those businesses are legally not separate from the owners. But, for accounting purposes, we treat the business and the owners as separate entities. And we're gonna be focusing on the accounting for the businesses, not the owners. The second assumption is the unit of measurement assumption. What that says is that we'd like to pick a unit of measure to aggregate all the different things that we have so that we have one common unit of measure. That common unit of measure, typically, is the currency in which the company is dealing and in the US, that would be the dollar. So, the assumption is that we can convert things like buildings, land, equipment, inventories into dollar amounts and then aggregate these dollar amounts. A third assumption is called the going concern assumption. What that means is that we presume that the company will continue to operate, that it'll be ongoing. Because they accounting would be different if we would presume that the company would be going out of business. A fourth assumption is called periodicity. And what that says is that we presume that we can just artificially or arbitrarily pick any time period that we want to and report the financial results for that time period. We can pick a year, a quarter, a month and isolate the company's activities for that time period and report the financial results of that. The last assumption is called materiality. What that says is that the only information that needs to be disclosed in financial statements is information that will be useful for those who rely on the financial statements to make decisions. So, as an example of that, we will look at the financials of NCR corporation. If you look at page 69 of the NCR financials in the top paragraph, the last sentence reads, "Supplemental pro forma information "and actual revenue and earnings since the acquisition date "have not been provided as this acquisition did not have "a material impact on the company's consolidated "statements of operations." So, what they're saying is that there's certain information that they did not provide because they believed that it did not have a material impact. They did not believe it would affect decisions made by any users of these financial statements. Let's now talk about those groups that use financial reports. We have investors, who, for a corporation, would be the stockholders, we have creditors, notably banks, various government agencies such as The Securities and Exchange Commission, which we'll talk about a little bit later, company management, and financial analysts. Now, what most of these have in common is that they're outsiders of the corporation, with the exception of company management. And because most of the users are outsiders, when developing the rules for financial reporting, we have to keep in mind that most of the users are outside the company. Let's now talk about the financial accounting rules. These rules are referred to as Generally Accepted Accounting Principles, or GAAP for short. And the rule-making resides under the authority of the US Securities and Exchange Commission, the SEC. However, historically the SEC has delegated rule-making to private bodies. In recent years, this private body is known as the Financial Accounting Standards Board, the FASB. The FASB consists of representatives from public accounting firms, industry, government agencies, and academia, so a cross-section of society. Now, even though the SEC has jurisdiction over publicly traded firms, the rules, GAAP, really applies to not only publicly traded firms, but privately held firms as well. Internationally, there's been a set of rules that has been developed in recent years, called International Financial Reporting Standards, IFRS for short. There was talk a few years back that, in the US, GAAP might be replaced by IFRS, however it does not look like that will happen anymore. There's been too much opposition from companies in the US and in later sessions, we'll talk about some of the specific reasons for this opposition. There's also a difference between GAAP and tax accounting. So, the accounting that's done for the IRS, for the tax returns, is really quite different than GAAP and in this course, we are focusing only on GAAP, not on tax accounting. Let's now talk about what qualities we would like to see financial statements possess. One quality is understandability. We'd like them to be understandable. Another is timeliness. We'd like them to come out in a timely manner for being able to make decisions at the right time. Full disclosure means that we want everything that is important for decision makers to be disclosed. Comparability, we want for the financial statements to be comparable over time for a particular company to be able to see trends. We'd also like them to be comparable with other companies. Another quality is objectivity. Now, what I don't have there is something like accuracy. And the reason that I don't have accuracy is because there is so much judgment and estimation involved in financial reporting that you really can not talk about accuracy. At best, we can talk about objectivity or freedom from bias. And as an example of reference to this estimation and judgment, let's look at the financials for UPS on page 65. If you look at the UPS financials on page 65, near the top, there's a heading that says, "Use of estimates" and underneath, it reads, "The preparation of our consolidated financial statements "requires the use of estimates and assumptions "that affect the reported amounts of assets and liabilities, "the reported amounts of revenues and expenses, and "the disclosure of contingencies. "Estimates have been prepared on the basis of "the most current and best information "and actual results could differ materially "from those estimates." Another quality that we would like financial statements to have is that of decision relevance. We'd like them to be useful for decision making. As it turns out though, that objective sometimes is in conflict with the objective of objectivity. And we'll talk about that a little bit later. Companies need to provide three basic financial statements to the users. One is called the balance sheet. The second is called the income statement. And the third is called a statement of cash flows. And in the following sessions, we will be talking about each of these financial statements individually, beginning with the balance sheet. So, we'll see you next session.

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**M1.T1.L2 – Overview of Assets & Liabilities**

- Hi, welcome back. In the last session we talked about some of the basic concepts of financial reporting and we mentioned that there's several financial statements that the companies provide. One of which is the balance sheet. And today we'll talk about part of the balance sheet. Namely, we'll give you an overview of the Assets and Liabilities sections of the balance sheet. The balance sheet measures financial position at a point in time. It's as if it had a financial camera and took a snapshot of the company at a certain moment. You'd be able to see what a company has, what it owes. That's the purpose of the balance sheet. And in it there are three categories. One is Assets, the second is Liabilities, and the third is Owner's Equity. There's a relationship among the three in that Assets equals Liabilities plus Owner's Equity. This is known as the accounting equation. The left side of the equation can be viewed as the resources of the company, that is the assets, or the resources. The right-hand side can be viewed as the sources of the funding, in that the liabilities are the sources provided by the creditors. Owner's Equity represents the sources provided by the owners. As well, the right side can be viewed as who has claims to the assets. The Liabilities represent the creditor's claims. Owners' Equity represent the owner's claims. Alright, let's talk about Assets first. Assets are the resources owned or rights to receive resources. They could be physical, such as cash, buildings, inventory, equipment. They can be intangible like copyrights, patents, or trademarks that have no physical substance but they are resources. Or they can be legal rights. For example, if Macy's sells merchandise to a customer on credit, Macy's has a legal right to receive payment from those customers. And that represents an Asset. Some Common Asset accounts include Cash, Accounts receivable, which in my example that I just gave about Macy's selling merchandise on credit, the asset that they would have is called an accounts receivable. Representing the right to receive the payment. For big ticket items like automobiles or refrigerators or furniture often the buyer has to sign a promissory note that promises to pay at certain dates with interest payments and so on. And because of the written form of these obligations, these are referred to as notes receivable. Another common asset is inventory. This represents the merchandise that the company has either manufactured or bought from the supplier that it's going to be selling to customers. A company could have investments, stocks or bonds in other companies. Another group of assets could be buildings and equipment. And then we can also have intangible assets such as copyrights or patents. The order of the presentation on the balance sheet is in terms of liquidity. Which means the closer they are to being cash the more liquid they are. So we start with cash and then we typically have things like the receivables and inventory because they're typically going to be converted into cash within maybe a couple months. And then the things like buildings, equipment, land, copyrights, those are typically last because you don't normally sell your buildings and equipment and copyrights and patents. How do we determine the numbers that we put on the balance sheet for our assets? Several options: one option is to use historical cost, which is simply the price that was paid to either manufacture or purchase the asset. Another is the sales value or market value. Which is what you could sell the asset for. A third is replacement cost which would be what it would cost you to replace the asset with an identical asset. And another would be general price-level adjusted cost where you're taking the original cost and adjusting it for inflation. Now, let's think about which one would be best for making a decision about whether or not to sell a building. Well, it would seem that the sales value would be the most appropriate of those to be considering for making the decision of whether or not to sell the building. However, let's now think about another criteria that we talked about earlier, and that was objectivity. If you think about which is the most objective of these four, it would have to be historical cost. The other three involve judgment or estimation. So we have this conflict here. For decision relevance, we would want to use sales value. For objectivity, historical cost is the most appropriate. So long ago the county regulators decided that objectivity is more important than decision relevance, or for that matter anything else. The regulators came up with a cost principle which says, that generally speaking, assets are valued at their historical cost. There's exceptions, we'll talk about exceptions in later sessions. Let's now talk about Liabilities. These are obligations owed to creditors. They can be in the form of money, or they can be in the form of goods or services. For example, suppose you have a magazine publisher that receives subscription monies from customers in advance of sending out the magazines. So before they send out the magazines they have an obligation, they have a liability to provide not money but to provide the magazines. Some common liability accounts include accounts payable, this is just a mirror image of accounts receivable. So in my example of Macy's selling to the customer on credit, we said Macy's has an accounts receivable, the customer on its balance sheet would show an account payable. Notes payable would be the mirror image of notes receivable. So when buying things like cars, furniture, refrigerators, a note would typically be signed by the buyer specifying due dates, interest rates, and so forth. And so that would be referred to as a note payable. Some other liability accounts that have the words payable might include things like, interest payable, rent payable. But not all liability accounts have the word payable in it. Deferred or unearned revenue is such an example. Let's look at the Home Depot financials, first on page 30 to see some reference to deferred revenues. Okay, if you look at page 30 on the Home Depot financials, about a third of the way down is a section titled Liabilities and Stockholder's Equity. And the fourth item down, the fourth liability says deferred revenue. That is explained in some more detail on page 36. Near the bottom of the page, the third to the last line on the page says, "When the company receives payment from customers "before the customer has taken possession of the merchandise "or the service has been performed. "The amount received is recorded as a deferred revenue "in the accompanying balance sheets "and the sale or service is complete. "The company also records deferred revenue "for the sale of gift cards and recognizes this revenue "upon the redemption of gift cards in net sales." So, deferred revenue is when the company receives money in advance of providing the goods or services and therefore they have a liability to provide these goods or services. So that's what deferred revenue is, it's a liability to provide goods or services. Sometimes liabilities have the word accrued in them, such as accrued wages and salaries. Again, turning to Home Depot, page 30, we can see an account such as that. If we look at the liabilities section on page 30 of Home Depot, you'll see the second liability is referred to as accrued salaries and related expenses. Companies usually present what we call Classified Balance Sheets, where they make distinctions between current and long-term assets and also current and long-term liabilities. For assets the distinction relates to the convertibility to cash within one year. Those assets that are expected to be converted to cash within a year are referred to as current assets. Those that are not are referred to as long-term assets. For liabilities the distinction refers to when the obligation is due. Liabilities that are due within one year are current liabilities. Liabilities that are due beyond one year are non-current or long-term liabilities. Let's look at the financials of UPS on page 62. On page 62 of the UPS financials we see, at the top, Assets, and then it's got a labeling of Current Assets, and it includes things like cash and cash equivalents, marketable securities, accounts receivable and so forth. Then coming up with the total current assets. After that you would expect another heading that said something like non-current assets or long-term assets, but you don't see that here, and you typically don't see that in any company's financial statements, because they presume that, if an asset does not appear in the current assets section, you will know that it is a non-current asset. Turning to liabilities at little bit below, we see that the first section is titled Current Liabilities, it includes things like current maturities of long-term debt and commercial paper, accounts payable and so forth. It arrives at total current liabilities. And again there is no heading titled Non-Current Liabilities or Long-Term Liabilities, but rather they're just itemized next, again the reason being that they presume that, if a liability is not on the current liability section, you will know that it's a non-current liability. This concludes the discussion of Assets and Liabilities. In the next session we will continue on the balance sheet with a discussion of the Stockholder's Equity section of the balance sheet. See you next time.

**M1.T1.L3 – Overview of Stockholders’ Equity**

- Hi, welcome back. In the previous session we discussed assets and liabilities and today we'll resume our discussion of the balance sheet by talking about the third category, which is the stockholders' equity section of the balance sheet. Stockholders' equity actually refers to a corporation's owners' equity. Owners' equity is a more generally term that is used not only for corporations but for proprietorships and partnerships as well. Anyway, owners' equity represents the residual interest of owners to the assets. If we think back to the accounting equation, which is assets equals liabilities plus owners' equity, recall that we can view the right hand side as the claims against assets. Liabilities being the creditor's claims, owners' equity being the owner's claims. If we rearrange this accounting equation a little bit to have assets minus liabilities equals owners' equity, we see that the right side really represents the interest of the owners after the liabilities have been satisfied. So that's why we call it the residual interest of the owners to the assets because it's after the liabilities have been met. In the stockholders' equity section of the corporation we have two components, one being capital stock, which typically consists of the forms of stock, common stock and preferred stock, and in a later session we'll talk about the differences between these two different forms of capital stock. The other section is referred to as retained earnings. This represents the accumulated earnings, that is the earnings that the company has had since its inception, less dividends that have been paid to the stock holders. Dividends are the distribution of earnings, and that only occurs when the board of directors decides to distribute the earnings, okay? The board of directors never has to really distribute the earnings. It's only when they take a vote to do so that the earnings are distributed in the form of dividends to the shareholders, and so retained earnings is these accumulated earnings less dividends, the earnings have been paid out to the shareholders. Companies often provide a statement of retained earnings which shows how retained earnings went from the amount at the beginning of the period to the amount at the end of the period. So it starts with the beginning retained earnings and it adds the net income, the profits earned during the period. It deducts the amount of dividends paid out to the shareholders during the period and this arrives at the ending amount of retained earnings, the amount of retained earnings at the end of the period. Likewise, companies typically provide a statement of stockholders' equity, and I have a simplified version for you here because for our purposes that'll suffice. We start with the beginning amount of stockholders' equity. That is the amount at the beginning of the period, and since stockholders' equity consists of both retained earnings and capital stock, we first deal with the retained earnings portion of it and that is to add the net income and deduct dividends as we just saw in the statement of retained earnings, and then the next part deals with the capital stock portion where we add any issuance of capital stock during the period by the company, and this will then arrive at the amount of stockholders' equity that the company has at the end of the period. So this concludes our discussion of stockholders' equity, and for that matter, it concludes our discussion of the balance sheet. In the subsequent sessions, we will turn to the next financial statement, the income statement, however, in a transition to do so, we'll need to talk about some concepts underlying the income statement, mainly the concept of a cruel basis accounting. So that'll be the subject of our next session, a cruel basis accounting as opposed to cash basis accounting. So we'll see you next time.

**M1.T1.L4 – Cash vs Accrual Accounting**

- Welcome to another session on financial accounting. This one is titled Cash Basis versus Accrual Accounting. In a previous session we talked about a financial statement called the balance sheet. We will be talking about a financial statement called the income statement, but before doing so we need to talk about accrual accounting and how it differs from cash basis accounting. First, let's talk about the revenues and expenses that will appear in the income statement. We define revenues as value received for goods sold or services performed. And we define expenses as a payment or obligations, for goods or services received. Now notice that neither of these definitions have the word cash in them. Revenues talks about value received, expenses talks about payment or obligations. So cash is not necessarily involved in these revenue expense transactions. And this gives rise to the distinction between cash basis accounting and accrual basis accounting. With cash basis accounting, we recognize revenues and expenses only when cash changes hands. So revenues will be recognized when cash is received, expenses will be recognized when cash is paid out. And, indeed, individual income taxation uses cash basis accounting; however, GAPP financial reporting does not permit cash basis accounting, it uses something called accrual basis accounting. So, now let's talk about the revenue recognition and expense recognition under accrual basis accounting. Revenue recognition is governed by the revenue recognition principle, which says that revenues are recognized when they are earned. And there's four criteria that need to be met in order to recognize revenue. One is that there must be an arrangement for the transaction. Second, there must be delivery of the goods or the services. Third, the price must be set. And fourth, collectability must be reasonably assured. As an example of a company discussing revenue recognition and these four criteria, let's look at NCR's financial statements. In the third paragraph on page 56, there's a bold-faced title that says Revenue Recognition and let me read that, it says, The company records revenue, net of taxes, when it is realized or realizable and earned. The company considers these criteria met when, and now it's going to discuss the four criteria, so the first one is, when persuasive evidence of an arrangement exists. Second one is, the products or services have been provided to the customer. The third is, the sales price is fixed or determinable. And the fourth is, collectability is reasonably assured. So the same four criteria that we just discussed, but the key one, actually, is the second one. The second one that says, the products or services have been provided to the customer, the one that I labeled as delivery. Because when that's met, generally, the other three are met also. The first one, an arrangement exists, well, if you've delivered the goods or services, you have likely made an arrangement to do so. The third criteria about the price being set, again, if you've delivered the goods or services, you've likely set the price. And the fourth one, collectability is reasonably assured, again, if you've delivered the goods or services, you believe that you're likely to collect from the customer. Expense recognition is governed by the matching principle. There's two components to the matching principle. First, costs are reported as expenses in the same time period as their related revenues. As an example, suppose Macy's buys merchandise from a supplier in December of 2015 and it pays for the merchandise in December of 2015, but it does not sell the merchandise until January 2016. So the question is, do they recognize the expense for the merchandise they purchased in December, when they purchased and paid for the merchandise, or do they recognize it in January of 2016 when they sold the merchandise? And the answer is, that the matching principle says that we recognize the expenses in January 2016, in the same period that the related revenues are recognized. Now, many expenses, many costs, cannot really be matched with specific revenues. So those costs that cannot be matched with specific revenues are matched with future time periods that benefit from the cost. As an example, suppose a company buys a two-year property insurance policy. Now that cost, really, cannot be related to any specific revenues. So, suppose they spent $10,000 at the beginning of 2015 for this two-year insurance policy. The matching principle says that because the periods being benefited are both, 2015 and 2016, we are going to spread out that cost as an expense over the two periods. Half of it, namely $5,000, as an expense for 2015, and the other $5,000 as an expense for 2016, because that year is also benefiting from the property insurance. So those are the two components of the matching principle and this wraps up the session dealing with accrual accounting. And now we have the tools to enable us to talk about the income statement, which will be the subject of our next session.

**M1.T1.L5 – The Income Statement**

- Hi, welcome back. We have previously talked about the balance sheet and now we'll talk about the second required financial statement called the income statement. The income statement shows the results of a company's operations, in other words, its success, or for that matter it might be its failure, over a period of time. Notice the distinction about the time reference as it relates to the balance sheet. In the balance sheet, the time reference was a point in time. The balance sheet gave you the financial position at a point in time, where as the income statement looks at a time interval. It looks at what happened over a period of time. And at a minimum, this period of time is one year period. Companies provide financial statements more often, but minimally it's gotta be yearly, and the year is referred to as the fiscal year. The fiscal year is any 12 month period that the company chooses. Usually it's the calendar year but not always. Many companies choose fiscal years according to their business cycle, or maybe to accommodate their auditors, or for various other reasons choose a year other than a calendar year. As an example of a company reporting a fiscal year that's not necessarily the same time period each year. Let's look at the financial statements of Home Depot. Let's look at the Home Depot financial statements on page 35. In the second paragraph, it's got the heading Fiscal Year. It says, "The company's fiscal year "is a 52 or a 53 week period "ending on Sunday nearest to January 31st. "Fiscal year ended February 2nd, 2014, includes 52 weeks. "Fiscal year ended February 3rd, 2013, includes 53 weeks. "And fiscal year ended January 29th, 2012, "includes 52 weeks." So you see it's not the same 12 month period exactly every year. And this is not all that uncommon. On the income statement, you will find revenues earned and expenses incurred. The difference between those two is what we call net income, or profit, or sometimes earnings. At any rate, in this basic form, we call it the single step form. It just lists all our revenues and all expenses. However very often companies produce income statements that have different categories in it, and various preliminary forms of profit. Typically it starts with net sales, or revenues. We use the term revenues when we're talking about services, whereas we use the term sales when we're talking about goods being sold. The word net implies that there are various adjustments made to sales. The ten most notable are for sales discounts, when a company offers discounts to customers for early payment. That would be deducted to arrive in that sales. Also sometimes the company will receive goods returned from customers that previously bought the goods. Or they will provide allowances for, let's say, defective merchandise, maybe give it 20% off on the sales price. So these sales returns and allowances also are deducted from sales to get the net sales amount. Then there's the deduction for cost of goods sold. That just represents the cost of the merchandise that the company purchased from the supplier, or that it manufactured itself. And that difference is called the gross margin, or gross profit. That's the first of several profit figures that appear on the income statement. And this one is really important for a lot of financial statement users. They want to know how much the company received over and above, just what it cost them for that merchandise, not really thinking about any other costs like salaries, or utilities, or interest, or anything like that. And as an example, let's look at Home Depot's financials. On page 31 of Home Depot's financial statements, we see at the top, it begins with net sales. And then it deducts costs of sales, which I called costs of goods sold, same thing, to arrive at this gross profit figure, which as I said is also called gross margin. After the gross margin, we deduct expenses referred to as operating expenses, or otherwise known as S, G & A, which stands for Selling, General and Administrative expenses. These are the day-to-day expenses of running the company, like utilities, salaries, insurance, rent. After these are deducted, we arrive at a second preliminary profit figure called operating income. And that just represents the profits from only the day-to-day kinds of activities. So for an example of this portrayal, let's look again at Home Depot's financial statements. After the gross profit item, there's a heading that says operating expenses. And actually Home Depot has two categories of it. It's got the Selling, General, Administrative category, which we refer to a little bit in our discussion. But in addition to that, it's got another category called depreciation and amortization. This actually represents non-cash expenses. They like to separate the cash from the non-cash expenses. We will be talking about depreciation and amortization in a future session. At any rate, after deduction of these two categories of operating expenses, they come up with the second preliminary profit figure called operating income. After the operating income, we add or subtract other revenues and expenses. These include things like gains on sale of assets, like buildings, equipment, land, or losses on the sale of these types of assets. We'll be talking about how we determine these gains or losses in a later session. It also includes things like interest expense or interest revenue, also dividend revenue. And notice I didn't say dividends paid because dividends paid would not be an expense. Dividends paid out would merely be a distribution of earnings to the shareholders, and would not be used in arriving at earnings. At any rate, after the addition or subtraction of these other revenues and expenses, we have another preliminary profit figure that's referred to as income before taxes. As an example of this section, let's look at, again, Home Depot's financial statements. On page 31 of Home Depot's financial statements, after operating income, we see a section titled interest and other income or expense. And they've got three items there. They have interest and investment income. They have interest expense, and they have other. And after these are added or subtracted, we have earnings before provision for income taxes. Just a little longer version of what we had a little bit earlier. Continuing with the income statement, after the income before taxes, we deduct the income tax expense, which is based on the amount of income before taxes, and that gives us yet another preliminary profit figure called income after taxes. Again, let's look at Home Depot's financial statements. On page 31 of Home Depot's financial statements, we see a little bit past the middle of the page the heading earnings before provisions for income taxes, and right after that, instead of calling it income tax expense, they have just a slightly different name. They call it provision for income taxes, and after deducting that, they arrive at net earnings. After the income after taxes, there may be one or two other categories. The first one called discontinued operations represents divisions or parts of the company that are no longer part of the company. An example of discontinued operation would be when a company sells off one of its divisions. So if you think about one of the purposes of an income statement, and that is to be able to project the future prospects of the company. If a company has sold off a division, well the profits or the losses from that division are not going to be useful in projecting the future earnings of the company because the company no longer has that division. So that's why that is separated out. And as an example of that, let's look at the financial statements of NCR. In the NCR financial statements, on page 50, about the middle of the page, there's an item that says loss or income from discontinued operations, net of tax And so that is in some cases being deducted, that is in 2013 and 2011, there were losses, whereas in 2012, there was a profit from that division that's being discontinued. And finally, the last item that is a deduction or addition is for the effects of changes in accounting principles. This is when a company changes its method of inventories, or depreciation, and that's got to be separated out, and the effects of those changes are reported. So after that, we finally get to the bottom line profit figure called net income. But that's not the end of the income statement because there's a ratio that needs to be reported. It's called earnings per share, and that is the ratio of the net income, or net loss, divided by the number of shares of stock. Now there's two forms of this EPS ratio. One is called basic EPS, and the other's called fully diluted EPS. The basic EPS is just as it appears. That income is divided by actual number of shares, whereas the fully diluted EPS has a different denominator. It has not only the actual number of shares of stock, but also the potential number of shares. For instance, many companies offer stock options to their top executives, which are options for them to buy stock at a later date, at a bargain price. And so these are potentially additional shares of stock, and so many financial statement users wanna know what would the earnings per share be if these things like stock options were exercised in the future. And so therefore, the fully diluted EPS includes in a denominator, not only the actual shares, but also the potential shares. As an example, let's look at the financial statements for NCR. First let's turn to page 50 of NCR's financial statements. We see at the bottom, they have the second bold-faced item from the bottom. It says net income or loss per common share, and notice right underneath that, it's got the two forms that we talked about, the basic and the diluted. And notice that the diluted for each of the years has a number that's less than or equal to the basic, and that's because the denominator is either the same or larger. And NCR then describes the denominator for diluted shares on page 61, so if we turn to page 61 of NCR's financials, we see near the bottom there's a table there, and the fifth items says dilutive effective employee stock options and restricted stock. Okay so, that is what we referred to earlier as being these potential shares that are being added to get the fully diluted shares in the denominator of the fully diluted EPS. This concludes the discussion of the income statement. In our next session, we'll talk about a third financial statement called the statement of cash flows. So see ya then.

**M1.T1.L6 – Statement of Cash Flows**

- Hi, welcome back to another session on financial accounting. Today, we'll talk about the statement of cash flows. This is the third financial statement that we have been discussing. We talked about the balance sheet, we've talked about the income statement, now the statement of cash flows. Now, recall with the income statement we said that the revenues and expenses are governed by accrual accounting, which does not necessarily reflect cash received or cash paid out. Yet, cash is important for a company that operates its business. It's got to pay employees with cash, it's got to pay suppliers with cash, so it needs to have some financial statement that does focus on cash, and this is the statement of cash flows. So, the statement of cash flows looks at how the company received cash and how the company used its cash. And, it shows how cash changed from the beginning of the period to the end of the period. And, it does so by recording the amount of cash collected and paid out in three different sections, the operating activities section, the investing activities section, and the financing activities section. And, when we put these three sections together, we get the change in cash from the beginning of the period to the end of the period. Let's first talk about the operating activities section. This section shows the company's day-to-day activities. The major operating cash inflow will consist of cash receipts from selling goods or from providing services, and the major operating cash outflow will be for payments to purchase inventory and also to pay operating expenses like rent, utilities, salaries, insurance. Now, there's two forms of this operating activities section. One is called the direct method. And in that method, it directly tells you where the cash came from and where the cash went to. It'll say, "Cash received from customers." It'll say, "Cash paid to suppliers, "cash paid to employees for salaries." However, this method is seldom used by US companies. Instead, a second method is most commonly used. It's called the direct, the indirect method, rather. The indirect method starts off with the company's net income from the income statement, and it makes some adjustments to get to the cash flow from the operating activities. Now, even though this indirect method is not very informative, it's a lot easier, because the company already has its income statement. It's already got the net income from there, and it just makes a few adjustments to get to the cash flow. Whereas, the direct method involves a lot more time and effort. Now, interestingly, the international standards do not permit the use of the direct method. Sorry, do not permit the use of the indirect method. They mandate the use of the direct method, because the direct method is much more informative. Well, as an example of the indirect method, let's look at the financials of Home Depot. On page 34 of Home Depot's financial statements we see that the top section reads, "Cash Flows from Operating Activities," and it starts with net earnings. And then, it says, "Reconciliation of Net Earnings "to Net Cash Provided by Operating Activities," and so it adds and subtracts a bunch of things like depreciation and amortization, stock-based compensation expense, and so on and so forth. And, at the bottom of that section, it says, "Net Cash Provided by Operating Activities." Okay, all three numbers for all three years are positive, and therefore it's net cash provided by. If any of these were negative, it would be referred to as net cash used in operating activities. The next section of the statement of cash flows is titled Investing Activities. It focuses on long-term assets, specifically the buying and selling of things like land, buildings, equipment. Buying these things involves cash outflows, selling these assets involve cash inflows. As an example of this section, again let's turn to Home Depot. On page 34 of the Home Depot financial statements we see a second section in boldface titled Cash Flows from Investing Activities. And, it lists things like capital expenditures, proceeds from sale of business, payments for business acquired, and proceeds from sales of property and equipment. And then, it's got the sum of these being net cash used in investing activities. And, the reason it's referred to as used in instead of provided by is that all three numbers have parentheses around them, therefore they're all negative, implying that they were all net cash outflows. The third section of the statement of cash flows is titled Financing Activities. This section focuses on liabilities and stockholders' equity items. Specifically, it focuses on cash obtained from or repaid to owners and creditors. So, loans that are made to others or loans received by the company, or repayments of loans, or stocks as issued by the company. As an example of the financing activities section, again, let's turn to the financials of Home Depot. Again, on page 34 of the Home Depot financials we see the third boldfaced titled section that says, "Cash Flows from Financing Activities," and it lists things like proceeds from long-term borrowings, repayments of long-term debt, repurchases of common stock, and so forth. And finally then, it gets to the net cash used in financing activities. Note, they're all three negative numbers. That's why it's called net cash used in, 'cause these are all net cash outflows. And then finally, after that, it shows the change in cash and cash equivalence. That represents what amount of cash changed from the beginning of the year to the end of the year. Now, the most important of these three sections is generally believed to be the operating activities section, because it focuses on the day-to-day activities of the company. And, it really is important to classify the items in the correct section. One notable exception to that was committed by Enron, and what they did was they had an item that should've been reported as an investing activity, and instead, to make the operating cash flow look real good, they put it in the operating activities section. And, one of the fraud examiners remarked regarding this that among all of Enron's violations of GAAP, and they had plenty of violations of GAAP, that this misclassification on the statement of cash flows from investing activities to operating activities was their most serious violation of GAAP. The financial statements that we've talked about also include notes. These notes have a couple purposes. One is that they summarize significant accounting policies, assumptions, estimates, and judgements that management is making. Also, they provide additional information about summary totals that appear on the financial statements. So, as an example of that, let's look at the NCR financials. Turn to page 66 of the NCR financials, and you'll see that they have some detailed itemization of items that appear on the financial statements. So, in the first boldface category it says, "Other Expense or Income," and it lists the things like interest, and impairment, and other. The next one is accounts receivable, and it breaks it down to trade, other, so forth, and then inventories it breaks down to work in process and raw materials, finished goods, service parts, so it's just showing more detail of what appears on the financial statements. Let's now talk about the audits of financial statements. And, we're referring to audits by an outside or independent CPA firm, as opposed to the company's own auditors. Companies often have their own internal auditors that they employ, but we're talking about when they hire CPA firms to do an independent audit of them. So, the CPAs will attest to the conformity with GAAP. That is whether or not the financial statements conform to GAAP. And the language that they'll use is whether or not the financial statements are presented fairly. They will not say anything about the accuracy, or they're not talking about guarantees. They're not gonna use strong language like that. They're not gonna certify. They're only talking about whether or not they're presented fairly, because a lot of what's on the financial statements, as we've talked about, are based on estimates and judgements. Now, there's one of three opinions that could be given on the financial statements. And, I say opinion, because again, it's not a certification, it's not a guarantee, because of the estimation and judgment involved. So, the first one is called an unqualified opinion, and that just represents a clean opinion. Everything's okay. The second opinion is called a modified opinion, and that's where the auditor takes exception to something, or has some uncertainty about something. And, the most notable type of a modified opinion is called a going concern opinion, where the auditor indicates that the company may have a going concern problem. That is, it might not be able to operate in the future. And, a third possible opinion is the adverse opinion. I say possible opinion, because actually, you'll almost never see an adverse opinion. An adverse opinion would say that the financial statements are not fairly presented in accordance with GAAP. Now, a publicly traded company can not have an adverse opinion, otherwise they'll be delisted. But, even a privately held company will do pretty much everything it needs to do in order to avoid an adverse opinion, because it's almost like a death sentence. As an example of a clean opinion, let's look at the financials of UPS. On page 61 of the UPS financials the third paragraph reads, "In our opinion," there's that word opinion, "such consolidated financial statements present fairly," so there's that term present fairly, "in all material respects," that's referring to materiality, "the financial position of United Parcel Service." As we might recall, the financial position is referring to the balance sheet. It's the balance sheet that portrays the financial position. So, what they're saying there is that the financial position is presented fairly. Continuing on, it says, "And subsidiaries at December 21, 2013 and 2012, "and the results of their operations." So, recall that the results of operations are portrayed on the income statement. So, what they're saying here is that the income statement has been fairly presented. Continuing on, it says, "And their cash flows." Well, obviously that's referring to the statement of cash flows. So, they're indicating that all three financial statements are being presented fairly, and let's continue reading. It says, "For each of the three years in the period "ended December 31, 2013 in conformity "with accounting principles generally accepted "in the United States of America." In other words, presented fairly in conformity with GAAP. The audit report typically will also say something about the responsibility of the financial statements. Many people believe that it's the CPA firm that's responsible for producing the financial statements of the company, but that's not true. The financial statements are the responsibility of the company's management, not the CPA. And, you'll generally find the CPA trying to make that perfectly clear. As an example, again let's turn to the UPS financial statements. Again, on page 61 of the UPS financial statements, look at the first paragraph. The next to the last sentence says, "These financial statements are the responsibility of Company's management. "Our responsibility is to express an opinion "on these financial statements based on our audits." In addition to financial statement audits, nowadays, at least for publicly traded companies, auditors must also provide opinions on the company's internal controls, and this is mandated by the Sarbanes-Oxley Act of 2002. Internal controls are policies and procedures that companies put into place in order to safeguard assets and to ensure the reliability of the financial records. So, nowadays again, not only must the auditor provide an opinion about the financial statements, but on whether or not the company's internal controls have been effective. As an example of this type of opinion, let's look at Home Depot financial statements. Look at page 28 of the Home Depot financials. The second paragraph from the bottom reads, "In our opinion, The Home Depot, Inc., maintained "in all material respects," that's referring to materiality, "effective internal control over financial reporting as of," and so forth and so on. So, by saying that they've maintained effective internal controls, they are providing an unqualified opinion, in other words a clean opinion, about Home Depot's internal controls. This concludes the discussion about the statement of cash flows. And, beginning with the next session, we're gonna be going down the balance sheet, starting with cash and providing more detail about each of the balance sheet items and their corresponding income statement items. So, see 'ya next time.

**M1.T2.L1 - Cash**

- [Professor] Hi, welcome back to another session in Financial Accounting. Beginning with this session, we're going to be going down the balance sheet and giving more detail about each of the items starting with cash. So that's our topic for today, is cash. Cash is anything a bank will accept for deposit. It includes things like checks, money orders, travelers' checks, if people actually still use them, bank credit card slips, such as Visa, MasterCard, American Express, Discover, as opposed to a company's own credit card slip. Okay, when a company sells merchandise where the customer uses something like a MasterCard, the company can take those slips to its bank, and the bank will accept it for a deposit, of course after deducting a charge of maybe 3%, 4%, whatever it is. However, when a company sells merchandise using its own credit card, for example, let's say, Neiman Marcus sells merchandise to a customer that uses a Neiman Marcus credit card. Well Neiman Marcus cannot take that slip to its bank. Rather, Neiman Marcus has to collect that itself. That would be an account receivable to Neiman Marcus, not cash. But again, a bank credit card slip sale, like a MasterCard, would be considered cash, because a bank will accept it for deposit. Now, most companies include, along with cash, something called cash equivalents. These are investments that the company has made, that come due within three months. These are considered so close enough to being cash, that they're just put together with cash on the balance sheet. As an example of that, let's take a look at the financials of UPS. On page 65 of the UPS financials, we see the second heading from the bottom is titled Cash and Cash Equivalents. And it reads, "Cash and cash equivalents consist of highly liquid investments, that are readily convertible into cash. We consider securities with maturities of three months or less when purchased to be cash equivalents." So that's the standard, three months or less. Occasionally you'll see a company maybe using a week or so as their cutoff. But generally, it's three months. Why three months as opposed to two months or five months? It's just an arbitrary choice that has been made and most companies just adhere to that. Companies generally perform what's called a bank reconciliation, typically once a month, for a couple purposes. One is to arrive with the proper amount of cash for the balance sheet. And another is to prevent or detect embezzlement. And because of that, it really should not be done by the person who issues checks or handles cash. Now we'll talk about how we do a bank reconciliation. A bank reconciliation will have a couple columns. One for the company's books and the others for the cash according to the company's bank statement. Notice that we have unadjusted balances beginning both columns at different amounts. Because typically the company's books will have one amount of cash balance, whereas the bank statement will have a different amount. So we'll call the company's books amount X, we'll call the bank statement amount Y. And then we'll make some adjustments to both sides to get to the correct balance that we'll call Z, that is the amount that gets put on the balance sheet. Alright, so let's talk about the adjustments first to the bank statement side. The first one listed is referred to as deposits in transit. This refers to deposits that the company has made in the bank, before month end, but that the bank has not processed until after the month. So, this amount would appear in the company's books, it would be included in the amount X, but since the bank did not process this until after the month, it would not have been included in Y. So therefore, we need to add these deposits in transit to Y. Second item lists that there is cash on hand. That refers to cash that the company has on its premises, rather than in the bank. And so of course, that's included in the company's X amount, but the bank doesn't know about that, so the bank would not have that included in Y, and that's why we need to add it to Y. The third amount in the bank statement column is called outstanding checks. These are checks that the company has written, but by the end of the month have not been processed by their bank. It hasn't, what we call, cleared yet. So, it has been deducted in the company's books in arriving at X, when the company wrote the check, it would've deducted it then, however since it has not been fully processed, it has not been cleared by the end of the month, it would not have been deducted by the bank in arriving at Y. And so therefore, outstanding checks are deducted on the bank column from Y. Now the last item appearing on the bank statement side is a plus or minus for errors, these would be errors that the bank has made. So if the company discovers that the bank has made an error, it needs to then add or subtract depending on the nature of the error in order to get the proper amount of cash. Now let's turn to the company books column. First item there, it says bank collections. So sometimes, banks collect on behalf of the company things like notes receivable. This is because the company wants its money in the bank as soon as possible to earn as much interest as it can, so it might instruct its customer to send the payment for the note receivable directly to the bank instead of to the company. So these bank collections would have been included in Y by the bank, because the bank collected it, but the company will not get notified about it until it receives its bank statement, after the end of the month. So it would not have been included in the company's books in the amount X. And that's why we add bank collections to the amount X. The second item on the company books list is interest that's been earned by the company. So, this is presuming that the bank is providing interest for the money that's deposited there. And the bank would have included it in the amount Y, but the company does not get informed about that until it gets its bank statement after the end of the month, so it would not have been included in the amount X. And that's we we need to add the interest earned to the amount X on the company book side. Third item on the company book side, says NSF checks deposited. NSF stands for non-sufficient funds, otherwise known as bounced checks. Checks because the company did not have enough money on hand to cover those checks. Well when the bank finds out about an NSF check, it will not include it in the company's cash, so it will not be included in Y. However, the company has already included it in X. When it received payment, it thought it was a good check, it recorded it as a deposit, so it is included in X, and now when the company finds out, when it gets its bank statement that the check bounced, it needs to remove it, it needs to deduct this NSF check from the amount X. The fourth item in the company book side says bank service charges. So banks often levy service charges for all kinds of things. And the bank of course will deduct it in arriving at the amount Y from the bank statement. But, the company does not get notified about that until after receives its bank statement after the month. And so it would not have been deducted in arriving at X. And that's why we need to deduct bank service charges in arriving at the proper amount of cash. The item after that is EFT payments. EFT stands for electronic funds transfer payments. This is when the company instructs the bank to make payments on its behalf, electronically. And so when the bank makes those payments, it deducts those amounts in arriving at Y. However, the company does not get notified about that until it sees its bank statement after the month, and so the bank would not have, sorry, the company would not have deducted it from X. And that's why we need to deduct the EFT payments. Lastly we see a plus or minus for errors on the company book side. So if it's been discovered that the company made any errors, then we need to add or subtract, depending on the nature of the error, to arrive at the correct balance, Z. And so when we finally get the correct balance, which should be the same amount on both sides, Z, that is the amount that gets put in the balance sheet for cash. This concludes our discussion of cash. And next session we'll continue on the balance sheet, and we'll talk about receivables, so we'll see you next time.

**M1.T2.L2 – Accounts Receivable**

- Hi, welcome to another session of financial accounting. Last time we talked about cash. Today we are going to move down to the next item that typically appears on the balance sheet, and that is receivables. First let's talk about accounts receivable. The main issue there is what to do about bad debts. Inevitably, some of the receivables are not going to be collected no matter how well the company's efforts are there are going to be some debts that just don't get collected. Well, one option might be to reduce the net sales. However, that is not done. Once the sale is made it's considered to be a legitimate sale and we don't undo it. Rather, we record an expense on the income statement called a bad debt expense. It would have the same effect on that income as reducing the net sales, but this is the way we do it, we record a bad debt expense. Now, suppose that a company sold merchandise on credit in 2015 and then in 2016 it finds out that this customer went bankrupt or maybe ran off to Argentina and is never expected to return again. So if you would recognize the bad debt expense in 2016, when we learned about the bad debt, this would violate the matching principal because the sale was made in 2015 and the matching principal says that we should recognize expenses in the same period as the related revenues are recognized and since the sale was made in 2016 and therefore the revenue was recognized in, sorry the sale was made in 2015 and the revenue is therefore recognized in 2015 the expense should also be recognized in 2015. So the way we do this is by using methods called allowance methods. This is where we estimate losses. And as an example, the company talking about this estimation, let's look at the UPS Financial Statements. Turn to page 66 of the UPS Financial Statements, and look at the very top under the heading that says Accounts Receivable. It reads, losses on accounts receivable are recognized when they are incurred, which requires us to make our best estimate of the probable losses inherent in our customer receivables at each balance sheet date. These estimates require consideration of historical loss experience, adjusted for current conditions, trends in customer payment frequency, and judgments about the probable effects of relevant observable data, including present economic conditions and the financial health of specific customers and market sectors. So, these are the things that UPS considers when it's making it's estimates for the bad debt expense. On the balance sheet, we will find the net amount of accounts receivable arrive at by starting with the accounts receivable and deducting something called allowance for bad debts. This allowance for bad debts is referred to as a contra-asset account because it is a deduction from the asset accounts receivable to get the net amount of accounts receivable. As an example of how this is shown, let's look at the financial statements for NCR. On page 66 of the NCR Financial Statements look at the second bold-faced item from the top that says Accounts Receivable. Under that it lists different categories of accounts receivable namely Trade, Other. And then it gives the gross amount of accounts receivable and after that is says less allowance for doubtful accounts. So that's the contra-asset account that we were just referring to, and after that we get the total accounts receivable net amount. There are two approaches to making the estimates for bad debt expense on the allowance amount. The first is referred to as the percentage of credit sales method. With this method we obtain the bad debt expense simply by taking a percentage of credit sales, typically based on the company's past history. The company will look at its previous credit sales, it will look at its collections and it will make a judgment about whether that's expected to continue, if not it will tweak it some and then this is the amount of bad debt expense recorded on the income statement, and it's also the amount that's added to the allowance for bad debts on the balance sheet. So as an example, suppose that the company had credit sales during the year totaling $500,000. And based on it's past history of collections it estimates that two percent of those credit sales will just never be collected. So it would obtain the bad debt expense by taking two percent of $500,000 arriving at the amount of $10,000 recorded as bad debt expense and to then add to the allowance account on the balance sheet. Now notice that this method does not consider anything about accounts receivable or what's already in the allowance for bad debt accounts. And since it ignores these many people believe that there is a better approach that would consider these two things and so we now turn to the next method. And that's referred to as the Percentage of receivables method. In this method we first obtain the New Allowance for Bad Debts, in other words an updated allowance for bad debts, by taking a percent or percentages, and I'll talk about that plural possibility a little bit later. Anyway, percentages of the ending balance in accounts receivable. And then we obtain the bad debt expense by taking this new allowance for bad debts and deducting the previous allowance for bad debts. As an example, suppose the previous allowance for bad debts amounted to $1,800 and suppose that the accounts receivable balance totals $100,000. Now, what's shown next is referred to as an aging of accounts receivable, and this is where the series of percentages this was the plural in the statement that I gave earlier. We have four different age categories on the grounds that the older the receivable is the less likely it is to be collected. The amount of age categories is arbitrary, the cut-off dates are arbitrary as well, and this example is four age categories. In the first category, the accounts are less than 30 days old and we have made an estimate that one percent of those are uncollectible, so we take one percent of 62,000 to arrive at 620, and so on until the last category we have over 120 days old for those we have estimated that 20% will be uncollectible and 20% of 3,000 would be 600 and so we add those four amounts together to get a new allowance for bad debts totaling $3,070. So then next we obtain the bad debt expense by taking this new allowance amount of 3070, subtracting the previous amount on our books, which is 1,800 and that gives us 1,270 for the amount of bad debt expense that will be recorded on the income statements and that will then also be added to the allowance account. As an example of a company talking about this aging of receivables approach lets look at NCR. Turn to page 57 of the NCR Financials and about the middle of the page you will see a bold-faced heading titled Allowance for Doubtful Accounts. And then it says, "NCR establishes provisions for doubtful accounts using percentages of accounts receivable balances to reflect historical average credit losses and specific provisions for known users." So because they make reference to using percentages of accounts receivable balances they are using this aging of receivables approach. Now lets talk about Notes Receivable. These are formal contracts that are signed when a customer buys merchandise or services on credit and they are typically for big ticket items. These contracts will specify due dates for the payments, they'll specify interest that must be paid, the interest rates and these are classified as current or long term depending on the due date. If they are due within a year they are current assets, if they are due beyond one year they are long-term assets. Now for some terminology for Notes Receivable. The Principal amount is the face amount of the note, in other words the amount that was borrowed by the borrower. The Interest Rate is the percentage of the principal that the maker is charged to be able to borrow the money. The Maturity Value refers to the Principal plus the interest, and we obtain the amount of interest by the product of three things. It's the Principal, times the interest rate, times the fraction of time that corresponds to the interest rate. Usually the interest rate is an annual rate, and so the fraction of time is the fraction of a year. As an example, suppose on January first, a company sold equipment and received a 90-day, $5,000 note receivable, and the interest rate is 14%. So we would calculate the interest by taking the principal of $5,000 multiplied by the 14% annual interest rate and multiply that by 90 over 365, the fraction of one year. And that would give us $172.60 as the amount of interest. Companies sometimes don't wish to wait until the due date to be able to collect a receivables, they may want the cash earlier, or they may feel that they don't want to bother with collecting the receivables themselves, so they will perhaps sell the receivables. When the receivables are accounts receivable this selling is usually referred to as factoring accounts receivable. With notes receivable the terminology is often a little bit different, it's often called discounting notes receivable. At any rate, we may have contingent liabilities that arise from the discounting or factoring, when it's done with recourse. Now, to illustrate what this means with recourse let's look at the following example. Suppose Company A sells equipment to Company B and rather than receiving cash they receive a note receivable. But the Company A does not wish to wait until the due date to collect the note receivable, so they take it into their bank and they discount this note at the bank with recourse. What that means is that if B defaults, and by the way B would be notified that they have to pay the bank, so if B defaults the term with recourse means that the bank can go after Company A to collect the money. And so, therefore, when Company A discounted the note it has a potential liability that we call a contingent liability, and so the question is, does this need to be reported on the balance sheet in the liability section. And the answer is no, it's not an actual liability, it's just a potential liability that will not likely arise because it's not likely that B will default. At any rate, all that needs to be done is that this contingent liability needs to be disclosed in the notes to the financial statements. Alright, so this concludes our discussion of both Notes Receivable and Accounts Receivable. In our next session we'll turn to Inventory. So we will see you then.

**M1.T2.L3 – Inventory & Costs of Goods Sold**

- Hi, welcome back. Today's lesson will cover inventory and cost of goods sold. Inventory refers to merchandise that is either manufactured or purchased for resale. For a manufacturing company, they'll typically have three different types of inventories, raw materials, finished goods, and work in process which refers to goods that have been started but not yet completed by the end of the period. As an example of a manufacturing company's inventories, let's look at the financials of NCR. Turn to page 66 of the NCR financial statements and in the middle of the page, you'll see a bold faced item that says "Inventories". Underneath that it has as the first item actually a combination of two of the items that we just made mention to. Work in process and raw materials. Next it has finished goods. And it also has another one referred to as service parts. So several different inventories for a manufacturing company. There are two issues related to inventories dealing with ownership. The first is goods in transit. Suppose you have a company based in Atlanta that sells merchandise to a company that's in Miami. And suppose it leaves Atlanta on December 27th and does not arrive in Miami until January 3rd. So on December 31st, the balance sheet date, it's in transit. And the question is, should it be included on the balance sheet of the selling company Atlanta or the buying company in Miami? And the answer is, whoever pays for the shipping records the inventory on its balance sheet. So if the Atlanta company paid for the shipping, the Atlanta company would include it in its balance sheet. Whereas if the Miami company paid for the shipping, it would be the Miami company including it in its balance sheet. And that also has implications for when the sale and the purchase would be recorded. If the Atlanta company paid for the transportation, then they own it until January 3rd and the sale would not be recorded by them until January 3rd. And the purchase would not be recorded by the Miami company until January 3rd. However if the Miami company paid for the shipping, then they take ownership at December 27th and therefore the sale and the purchase would be recorded on December 27th. The second ownership issue relates to goods on consignment. Sometimes rather than selling merchandise to another company, a company will give those goods on consignment telling them that if they don't sell the merchandise, they can return it to them or if they do sell the merchandise, they can keep a certain percentage, perhaps 10% and just return 90% to the seller. So suppose that Neiman Marcus sells merchandise to or receives merchandise from a vendor on consignment. And so Neiman Marcus let's say has a lot of merchandise on its floors at December 31st. So the question is does Neiman Marcus report that inventory on its balance sheet or will it be the vendor? And the answer is it will be the vendor, not Neiman Marcus because title does not transfer for these goods on consignment. The title remains with the vendor. And while possession might be 9/10 of the law, for accounting purposes we need the full 100% in order to put the inventory on our balance sheet. Inventory is also used to determine the amount of cost of goods sold that appears on the income statement. To get cost of goods sold, we take the beginning inventory cost, and add to that net purchases which we'll talk about in a minute. That'll give us the amount of goods available for sale. And then we deduct the cost of the goods that were not sold, namely the ending inventory, to arrive at the cost of goods sold. So to get net purchases, we take the cost of purchases and if the company pays for the transportation, it pays for the freight, we add that which we call freight-in. And if there're any purchase returns made, those are deducted as well as allowances. Allowances would be that instead of a return, the seller might say we'll just knock off 10% because of the defects that there were and so this 10% that's knocked off is deducted. We also deduct for any purchase discounts. That is, discounts made for early payment when those terms are available. They would not have been reflected in the original purchase amount. So now when the payment is made early and they receive the discount, we deduct the purchase discounts. And this gives us the amount of net purchases. So cost of goods sold, as we've seen when we talked about the income statement, is deducted from sales to arrive at the first of several preliminary profit figures that we call gross margin. A couple different approaches are used to report the gross margin. One is called the gross method. The other's called the net method. So as an example, suppose that we have the sale of an item that cost $150 for $250. Suppose it's priceline.com that's buying airline tickets from an airline for $150 and it sells it to its customer for $250. So in the gross method, we would report $250 as sales revenue, $150 as cost of goods sold and the gross margin of 100. Whereas in the net method, we would just report this net amount of 100 as a sales revenue with no cost of goods sold arriving at the same gross margin of $100 as the gross method. So you might think, what's the big deal? Why do we care? We're getting the same gross margin. Well many companies do care. Because the gross method will show higher sales revenue and many financial statement users like to look at sales revenue, sales growth, and so many companies have incentives to try to maximize sales revenue. And this was particularly abused about 15 or so years ago in the Dot-com era, it seemed like there was such a focus on sales revenue that ... Companies were using the gross method even when they did not take ownership of the goods. And so the regulators ruled that in order to use the gross method, the company really has to assume ownership risks. So if a company just acts as a broker to enact a transaction between a buyer and the seller, they must use the net method. There's a couple different approaches for keeping track of inventories. One is called the perpetual inventory system where the records are updated whenever a purchase or sale is made and because it involves a lot of record keeping, it's most often used when each item has a relatively high value. In other words when it's really worth all that time and effort. The other system called the periodic inventory system does not update records every time there's a purchase or a sale. It's used when inventory's composed of a large number of diverse items, each with a relatively low value because it's just not worth the bother to update inventory and cost of goods sold for every transaction. And so under the periodic system approach, what's done is once a year, the company's personnel will go out to where the inventory is and they'll have to take a count. It's referred to as a physical inventory count. And that will establish the amount of inventory and cost of goods sold to put in the financial statements. Now even company's that have perpetual inventory systems will take the physical count once a year just to be able to compare that count to what's on their records. And that will enable them to determine what amount of inventory loss, often called a shrinkage occurs. With the periodic system, you're not able to determine the amount of inventory shrinkage. Let's now look at the Home Depot financial statements. Turn to page 36 of the Home Depot financial statements and look at the first full paragraph. It reads, "Independent physical inventory counts "or cycle counts, "are taken on a regular basis in each store "and distribution center "to ensure that amounts reflected "in the company consolidated financial statements "for merchandised inventories are properly stated". So by talking about comparing that to what's on their records, they must be using a perpetual system. All right, continuing on it says, "During the period "between physical inventory counts in stores "the company accrues for estimated losses "related to shrink on a store by store basis "based on historical shrink results "and current trends in the business. "Shrink, or in the case of excess inventory, swell", which rarely happens, it's usually shrink, "is the difference between the recorded amount of inventory "and the physical inventory. "Shrink may occur due to theft, loss, "inaccurate records for the receipt of inventory "or deterioration of goods among other things." So several things may contribute towards this inventory shrink. This session is now concluded. In our next session, we'll discuss some further issues related to inventories. So we'll see you then.

**M1.T2.L4 – Inventory Costs Flows**

- Hi, welcome back. Last time we talked about several issues related to inventory and cost of goods sold, and today, we'll continue our discussion of inventory, talking about inventory cost flows. Suppose you're a company like Kroger who sells, among other things, boxes of Cheerios. Now, suppose you bought a batch of Cheerios, a batch of boxes of Cheerios two weeks ago at a price of, say, $2.50 a box. And then, last week, you bought another batch of Cheerios boxes and paid a slightly higher price, $2.75. Now, today you sell a box of Cheerios, and the question is, is the cost of that box the $2.50 that you paid two weeks ago, or is it the $2.75 that you paid one week ago? There's no way of knowing. And, indeed, with most products, there's no way of being able to identify which batch it came from, what it cost. Now, when that can be done, then we are able to determine the cost exactly, and we call that specific identification. An example of specific identification would apply to a car dealership. Okay a car dealership will know exactly the cost of every single car that it has on it's lot. So, for other types of situations, we have three other approaches that are typically used. One approach is called first-in, first-out, or FIFO for short, and that's where we presume that the cost of the merchandise sold is coming from the earliest batches purchased. On the other hand, another approach is called LIFO, last-in, first-out, and that presumes that what's being sold first is the latest purchases that were made. And then the last method is called the weighted average approach, and that involves an average cost of all the purchases made, weighted by the number of units. As an example, suppose Kernel King buys and sells corn, and they had following transactions occurring in June. First, on June 1st, it purchased 10 tons at $6 a ton, then on June 8th, it purchased another 10 tons, paid a higher price, $9 per ton. And then, June 27th, they sold half of these at $11 a ton. So we wanna know how much did Kernel King make during June? So, let's look at case one. That presumes they sold the old corn. That would be the FIFO method. So the sales amount, the sales revenue, would be $11 times 10 tons, there's no issue about that. The cost of goods sold, that presumes that the 10 tons came from the earliest purchase, the June 5th purchase, at $6 a ton. So we had a cost of goods sold of 60, giving us a gross margin of 50. Case two presumes we sold the new corn. That relates to the LIFO approach. Okay, sales, again, is 110, but now the cost of goods sold uses the $9 a ton from the most recent purchase of June 18th. And so that gives us a different gross margin than we had for case one, $20 instead of 50. Case three says that we're selling mixed corn from both batches. So that's a weighted average approach. Again, the sales revenue is still 110, but now for the cost of goods sold, we're gonna use the average of the $6 and $9, that being $7.50, so 7 1/2 times 10 tons gives us the 75. And so yet we get another gross margin of 35 that's different than the first two. So it tells you that the kind of system that we're using for the inventory cost flow will give us different amounts of cost of goods sold typically, and therefore different amount of gross margins. So you might wonder, which system is best? Which is the best approach? And the answer is, it depends. It depends on which financial statement is considered the most important. If you consider the income statement the most important, then LIFO is the way to go. On the income statement, you find cost of good sold. And if want the want the most up-to-date number in cost of good sold, you want LIFO, because LIFO puts the most recent costs in the cost of good sold, that says you're selling the most recent purchases first. So with LIFO, you have the most up-to-date cost of goods sold, and therefore LIFO is considered to give you a better measure of income. Now what if you're main focus is the balance sheet? So there, you'd wanna use FIFO. FIFO gives a better measure, because on the balance sheet, what you see is the ending inventory. And if you want the most up-to-date cost for your ending inventory, you go with FIFO, because with FIFO, that presumes you're selling the earliest merchandise first, and therefore what you have left in the ending inventory is the most recent purchases, the most up-to-date cost. And so, therefore, FIFO is a better measure for the balance sheet. Many companies will use LIFO for some inventories and FIFO for other inventories. Now there's something called the LIFO conformity rule. So, to understand what that's about, let's talk about a situation where prices are increasing over time, and that's the usual case. Normally, prices do increase over time. If you think about a company wanting to report high amounts of profits on its financial statements, which is what they typically like to do, they will want cost of goods sold that's low. And so the system that gives you low cost of goods sold when prices are rising will be FIFO. So companies would like to use FIFO for financial reporting because it shows higher profits than LIFO would. And weighted average would fall somewhere in between. Now, let's talk about tax accounting, even though we said at the outset of this course that we're not gonna talk about tax accounting, but here we have to talk about it a little bit. So, for tax accounting, you don't want high profits, in fact you want low profits because you wanna pay a low amount of taxes, and taxes are based on the profits. So, to get a low amount of profits, you want a high amount of cost of goods sold on the income statement. And so, when prices are rising, the method that gives you the highest amount of cost of good sold would be LIFO, because LIFO puts the most recent purchases, which have the higher cost, in cost of goods sold. So, for tax purposes, a company wants to use LIFO, but for financial reporting purposes, it would wanna use FIFO. Now, ordinarily, companies can use one method for tax reporting, and another method for financial reporting. However, inventory is an exception. The regulators, the government, has ruled essentially that a company cannot have his cake and eat it too with inventories. They have come up with this LIFO conformity rule which says that if a company wants to use LIFO tax purposes, it must also use LIFO for GAAP financial reporting. Now that's not to say they always use the same method for each. A company could use FIFO for tax reporting and LIFO for financial reporting. But if they wanna use LIFO for tax purposes, they must also use LIFO for financial reporting. Alright. The last topic in inventories is a major exception to the cost principle. Recall that the cost principle said that assets on the balance sheet need to be reported at their historical cost. For inventories though, we have a rule called lower of cost or market. Inventories will be reported at the lower of the cost amount or the market value amount. And the justification for this is referred to as the principle of conservatism. By conservatism, we're not talking about how anybody dresses or how they vote politically, what we're talking about is the inclination that companies have to report high profits and high assets. They like to inflate profits and assets. They typically don't understate them. And so because of this concern about overstating assets and profits, we will have inventory being lowered if the amount goes below the cost, but we will never report it above a cost. If the market value goes above cost, we will not write it up above cost. So, under this lower of cost or market rule, inventory is reported at less than cost when either the future of value of the inventory is in doubt, because of reasons like damage, usage, or obsolescence, or if it could be replaced at a new price that's less than the original cost. Let's now look at the NCR financial statements for reference to this lower of cost or market rule. Turn to the page 57 of the NCR financial statements. And about the middle of page, you'll see a bold-faced heading that says inventories. It says "Inventories are stated "at the lower of cost or market "using the average cost method." In other words, the weighted average method. "Cost includes materials, labor, "and manufacturing overhead "related to the purchase and production of inventories." Just skip the next sentence. And then it says "The company regularly reviews "inventory quantities on-hand, "future purchase commitments with suppliers, "and the estimated utility of inventory. "If the review indicates a reduction in utility below carrying value," carrying value is simply just what the inventory's currently being reported on to the balance sheet. So then, "Inventory is reduced to a new cost basis. "Excess and obsolete reserves "are established based on forecasted usage, orders, "technological obsolescence, and inventory aging." So if any of these things happen, then the company writes down the inventory and they record either a loss on the income statement or they increase cost of goods sold. Either way, that reduces the amount of net income reported on income statement. This concludes our discussion of inventory. In our next lesson, we'll talk about investments and pre-paid expenses. We'll see you then.

**M1.T2.L5 – Prepaid Expenses & Investments**

- All right, welcome back. Today I'm going to conclude the current asset section of the balance sheet by discussing prepaid expenses and investments. First prepaid expenses. They include things like prepaid rent, prepaid insurance, any time you're paying something in advance and getting the benefits later on. Because of the matching principle, we do not record these as expenses necessarily when the payment is made, but rather we spread the expenses over the periods that we're benefiting from these expenditures. For example, if we've paid rent in advance for two years, we would not record the rent as an expense all immediately. We'd record some of it the first year, and some of it for the second year. As an example of reference to prepaid expenses, let's turn to the Home Depot financial statements. On page 37 of Home Depot's financial statements, look at the middle page. You'll see a bold face heading titled Prepaid Advertising. It reads, "Television and radio advertising "production costs, along with media placement costs, "are expenses when the advertisement first appears." So not when they make the payment, but rather when the advertisement first appears. Now let's talk about investments. Marketable securities are short-term investments in stocks or bonds. We'll talk about long-term investments in a minute. At any rate, for marketable securities, there is a major exception to the cost principle. We've already talked about one exception, for inventories, referred to as a lower of cost or market rule. For marketable securities, we even have a more major exception. It's called mark to market, for stocks. For bonds, we don't have the exception to the cost principle. Bonds still are reported at cost. But with stocks, because the prices of stocks are considered to be objective, recall objectivity was the main reason for the cost principle. So because the prices of stocks can be found in periodicals and on the internet, they're considered to be objective enough to where those numbers can replace the cost on the balance sheet. That's referred to as mark to market. Not only can we lower the amounts below cost. But if the market amounts are above cost, we will increase the amounts above cost. As an example, let's look at the financial statements of UPS. First, turn to page 65 of the UPS financial statements. In the last section, you'll see an italicized heading that says investments. The first sentence reads, "Marketable securities "are classified as available for sale," and we're not going to get into what available for sale means. But then it says after that, "and are carried at fair value." In other words, they are recorded at their market value. Now we'll turn to page 69 to see what it further has. At the bottom of page 69, you see a table there that describes the current marketable securities. In the left-hand column it has the cost, totalling $582 million. In the right-hand column, it has the estimated fair value, which totals an amount that's less, $580 million, and amount less by $2 million. It is this lesser amount, this $580 million estimated fair value that is reported on the UPS balance sheet for its marketable securities. For long-term investments, the accounting depends on the percentage of ownership. If a company owns more than 50% of another company's stock, it must consolidate the financial statements. What that means is, it combines the financial statements of both companies as if they were one company. Indeed, all the financial statements that we've been making reference to so far of Home Depot and UPS and the NCR, these have all been consolidated foundation stitches. Let's look at Home Depot right now. Turn to page 35 of the Home Depot financial statements. In the top paragraph, look at the next to the last line, and it reads, "The consolidated financial statements "include the accounts of the company "and its wholly owned subsidiaries." In other words, the companies that it has 100% ownership of. "All significant intercompany transactions "have been eliminated in consolidation." When a company owns between 20% and 50% of another company's stock, it must use what's referred to as the equity method of accounting. Suppose we have a company like Sears, that suppose owns 40% of another company. Therefore they have 40% of the votes of any matters that come to the Board of Directors, including the payment of dividends. Now suppose Sears is having a bad year, profit-wise. So they want to make that up by receiving a lot of dividend revenue. Because they own 40% of the stock, they will have a great say so in the company they've invested in paying dividends to them. On the other hand, suppose Sears is having a real good year and they don't need as much dividend revenue from the outside. Now they'll save that for later on. Their 40% vote might say, no dividends to be paid this year. The point is that they exercise a lot of influence in decisions such as the payment of dividends. Because of this potential manipulation of their net income, the FASB has ruled that when a company exercises significant influence over another company, and that's determined to be between 20% and 50% of stock ownership, when that's the amount of ownership they must use what's called the equity method, in which they do not recognize dividends when they receive them, but rather they will recognize dividend revenue as it's being earned by the company they've invested in. So my example of Sears owning 40% of another company's stock, if the other company had profits of $100,000, then Sears would have to report 40% of that, in other words $40,000 as income from the investment, even if they received no dividends at all from that company. As an example of reference made to the equity method, let's turn to the financials of NCR. Turn to page 56 of the NCR financial statements. In the top paragraph, let's start from the second sentence, which reads, "Long term investments in affiliated companies "in which NCR owns between 20% and 50%, "and therefore exercises significant influence, "but which it does not control," meaning it does not own more than 50%, "are accounted for using the equity method." If a company owns less than 20% of another company's stock, then the accounting is the same for short-term investments, in other words, the mark to market rule. This concludes our discussion of prepaid investments and investments. Next time we'll talk about property, plant, and equipment. We'll see you then.

**M1.T3.L1 – Property, Plant, and Equipment**

- Hi, welcome back. In today's session, we'll talk about property, plant and equipment. There's two types of property, plant and equipment, one type being fixed assets, referred to also as tangible assets, and then the other category is the intangible assets, such as patents, copyrights, trademarks that have no physical substance, but have, are resources. Anyway, back to the fixed assets. There are several types within that category. We hae land, in which there's no depreciation. We have buildings, equipment, and land improvements, which do have depreciation, and land improvements include things like paved parking lots, fences, lighting. And then we have natural resources, things like timber fields, oil wells, mines, where we actually extract the assets out of the ground. And we have depletion for that. For the intangible assets, we have something called amortization. Now these things, amortization, depletion, depreciation, they all really mean the same thing and we'll talk about them in a minute, but first, let's look at the financials of UPS to see some examples of their property, plant and equipment assets. Look at the UPS financial statements on page 73. At the top, you'll see a listing of their property, plant and equipment, and so they list things like vehicles, aircraft, land, buildings and so on. Depreciation, depletion, and amortization all refer to the same thing. They refer to the process of cost allocation that assigns the cost of the asset to the periods benefited. This relates to the Matching Principle, which says that we make an expenditure for these assets, we do not record them as expenses right away, but rather, we spread the expenses over the periods in which we are benefiting from them. And so for certain tangible assets, we call this depreciation. For natural resources, we call it depletion. For intangible assets, we call it amortization. Now for land, we don't do any of that. The land is never expensed. Land doesn't get used up, it doesn't deteriorate. Let's first talk about the cost of purchased assets and then we'll talk about depreciation a little bit later on. To get the cost of purchased assets you need to include all the costs that were incurred to get the asset ready for initial use. So if the company paid some freight to get the assets to them, that needs to be included. Any installation costs need to be included. If they incur costs in testing equipment, before it's initially used, that must also be included. Now suppose a company is constructing the assets itself, rather than purchasing it, so the cost of these self-constructed assets needs to include all expenditures that are incurred to build the asset and make it ready for its intended use. This would include materials that are used to build the asset, construction labor, some share of general company overhead, and something called capitalized interest. Now, this refers to interest that's paid during the construction period. Ordinarily, when interest is incurred, it's recorded as an expense on the income statement right away. However, during a construction period, interest that is incurred is treated as an asset. It becomes part of the cost of the equipment, or building, whatever is being constructed, and then later on, when depreciation expense is taken, that's when it turns into an expense. So this interest that becomes an asset is referred to as capitalized interest. Capitalization means treating something as an asset, rather than an expense. To see an example of reference being made to capitalized interest, let's look at the financial statements of UPS. Turn to page 66 of the UPS financial statements. About the middle of the page, in the second paragraph under the heading Property, Plant, and Equipment, it says, interest incurred during the construction period of certain property, plant and equipment is capitalized, until the underlying assets are placed in service. What if a company spends money on an asset after it has owned it for, let's say, a couple of years? So this is an expenditure on an existing asset. And the way it's treated depends on whether we consider it an ordinary expenditure, or a capital expenditure. An ordinary expenditure typically benefits only the period in which they're made. Things like repairs, maintenance, and minor improvements are considered to be benefiting only the period in which the expenditure is made, and therefore, they will be expensed immediately on that year's income statement. The other type of expenditure is called a capitalized expenditure, and those are ones which benefit the company over several periods, not just the current one. And, because of the Matching Principle, which says that we need to recognize the expenses in the periods that were benefiting from those expenses, we do not expense them immediately, but rather, we capitalize them on the balance sheet, meaning we treat them as assets, and then, those assets will be depreciated over the periods in which we are benefiting from those assets. Now, companies typically like to capitalize rather than expense. They like to postpone expenses. They want profits to look as high as possible early on. And so, because there's a tendency to want to capitalize, the regulators have imposed some rather strict criteria that are needed in order to capitalize. The criteria are that either the expenditure has to increase the productive life of the asset or, it has to increase the capacity of the asset. The example of increasing capacity might be if you actually add a wing to a building. Now, if you're just fixing something, if you're just restoring something to its original condition, that is not considered to be adding capacity, so that would not be qualifying as a capital expenditure. Let's look at the financial statements of UPS again. Turn to page 66 of the UPS financial statements, and right under the heading, Property, Plant, and Equipment, in the end of the first paragraph, the sentence reads, "The cost of major airframe and engine overhauls, as well as routine maintenance and repairs, are charged to expense as incurred." So, these are ordinary expenditures that are expensed immediately. These are not capital expenditures. This concludes today's session on Property, Plant and Equipment. Next time, we're going to be talking about depreciation. We're gonna look at the various methods of depreciating property, plant and equipment. So we'll see you then.

**M1.T3.L2 - Depreciation**

- Welcome back everybody. Today, we will continue our discussion of property, plant, and equipment, by focusing on depreciation. We'll be talking about several methods of determining depreciation, and for each of these methods, there's two estimates that are required by management. One is the estimate of the useful lives of the assets. And by that, we really mean the intended lives. So, for example, if a building could be used by the company for 50 years, but they only intend on using it for 10 years, then one must use the 10-year intended life to do depreciation. In addition, management has to estimate the salvage value of the asset, that is the amount that they believe that they will receive when they sell the asset at the end of its intended life. The salvage value is also sometimes referred to as residual value, or scrap value. So to see an example of the discussion of useful life estimates, let's turn to the financials of UPS. Turning to page 66 of the UPS financial statements, we look at the third section, with the italicized heading property, plant, and equipment. It reads: Property, plant and equipment are carried at cost. Depreciation and amortization, which is a term that we'll talk about later, are provided by the straight-line method, which is one of the methods that we'll talk about, over the estimated useful lives of the assets, which are as follows: vehicles, six to 15 years, aircraft, 12 to 30 years, buildings, 20 to 40 years, leasehold improvements, lesser of asset useful life or lease term, plant equipment, six to 8.25 years, and technology equipment, three to five years. Now let us discuss the four most common methods of depreciation. The first is called straight-line depreciation, and this is the one that the vast majority of publicly-traded companies use. And that is where the cost of the asset is allocated equally over the periods of an asset's estimated useful life. We arrive at the annual amount by taking the cost, subtracting the salvage value, and dividing that difference by the estimated useful life. A second method is called the units of output method. In that method, the more output that's produced, the more depreciation is recorded. We're not gonna get into the details of how that's done, though. And, third is called accelerated depreciation, which consists of two main methods. One is called sum of the years digits, and the other is called double declining balance. And, again, we're not gonna get into the mechanics of how they're done. Let's just discuss the concept of accelerated depreciation, which mean that we're gonna record more depreciation expense in the early years of the asset and, therefore, less depreciation expense in the later years. And the reason I say therefore is because, regardless of what method that we're using, the total amount of depreciation over the life of the asset will be the same for all methods. They differ in the distribution of the amount of expense for each period. The straight-line method has an equal amount each year, whereas accelerated methods have more in the early years and so, therefore, less in the later years. Now there's several justifications that are often given for accelerated depreciation for why we have more depreciation expense in the early years and less in the later years. The main reasoning is that many assets become obsolete or lose productivity more so in the early years than in the later years. And so, therefore, let's record more depreciation expense in the early years and less in the later years. Another reason sometimes given for accelerated depreciation relates to the matching principle, which says that we want to match expenses in the same periods as the related revenues are recognized. So, if we think about assets being more productive in the early years, thereby generating more revenues in the early years. So the idea here is to also recognize more depreciation expense in the early years. And, finally, a third reason that's sometimes given for justifying accelerated depreciation is that, in the later years, the company's gonna have more repairs and maintenance expense for the assets than in the early years, and so, therefore, to sort of even things out, we have more depreciation expense in the early years. Now let's talk about the balance sheet presentation for depreciation. First, we have the equipment account, or whatever the asset is. It could be buildings, equipment. And then, there's a deduction for accumulated depreciation, which is the running total of depreciation since the asset was acquired. And this accumulated depreciation account is a contra asset account. It's actually the second type of contra asset account that we've encountered. You may recall that, when we talked about accounts receivable, we encountered an account called allowance for bad debts, which was also a contra asset account. These contra asset accounts are deductions from the asset accounts to arrive at the net asset account, in this case, net equipment, which is often referred to as the book value of the equipment. And to see the presentation for Home Depot, please turn to the Home Depot financial statements. Please turn to page 30 of the Home Depot financials and, in the asset section, about halfway through it, you'll see an account that says property and equipment at cost. Right after that, it says less accumulated depreciation and amortization. And then, after that, it arrives at net property and equipment. Let's now talk about disposal of assets, which include things like selling assets, or perhaps trading in an asset for another asset, or casualty losses from things like fires or floods that destroy an asset, or maybe just throwing away an asset. That's referred to an asset retirement. When assets are disposed of, we often have a gain or a loss on the sale, or on the disposal of the asset. And the gain or loss is determined by comparing the proceeds through book value. The proceeds just means whatever's received for the asset, generally cash, but not always. If the proceeds are more than the book value, then we record a gain. Whereas, if the proceeds are less than the book value, we record a loss. These gains and losses appear in the income statement. Gains are like revenues, which increase net income. Losses are like expenses, which reduce net income. Now let's talk about how we account for natural resources like oil wells, timber fields, copper mines, where the asset is actually extracted out of the ground. And so we have something similar to depreciation expense for natural resources. It's just given a different name. It's called depletion expense. And the way depletion expense is determined is actually very similar to the units of output method of depreciation that we discussed earlier, where we said that, in that method, the more output we have, the more depreciation expense we record. Same thing here. The more output we have, the more extraction of timber, or petroleum, or copper, the more extraction of those things that we have, the more depletion expense that we will record. All right, so this wraps up our discussion of depreciation and depletion today. And next time, we will continue with intangible assets. So, see you then.

**M1.T3.L3 – Intangible Assets**

- Hi, welcome back. Today we're going to continue our discussion of the assets section of the balance sheet by discussing intangible assets. These are assets that have no physical substance, but they are resources. Things like copyrights, patents, trademarks. The way we account for intangible assets depends on whether they have a definite life or an indefinite life. For those that have a definite life, they are amortized, which is really the same word as depreciation, but for some reason for intangible assets, it's referred to as amortization instead of depreciation. Any rate to amortize over the minimum of the economic life and the legal life. Some assets have legal lives. A patent has a legal life of 20 years. A copyright has a legal life of 50 years beyond the author's demise. If the economic life, in other words, if the perceived benefit will be less than that, so if you have a patent where management believes they're only going to receive benefits for five years even though it's got a legal life of 20 years, they must amortize over the five years. Let's look at NCR's financials to see what they show about their intangible assets that have a definite life. Let's look at the NCR financials. Turn to page 73. A little bit past the middle of the page there's an italicized section titled Long-Lived Assets, and it reads, NCR's identifiable intangible assets reported in other assets in the consolidated balance sheets which specifically identified when acquired and are deemed to have finite lives. Finite or definite lives. And then right below you see a table that lists these intangible assets. Things like reseller and customer relationships, intellectual property, trade names, and noncompete arrangements. Also to the right of that they've got a column that gives you the amortization periods, the years that they used to amortize these assets. Now let's also turn to another page, page 58 of the NCR financials. In the fourth paragraph in the top it reads, acquired intangible assets other than goodwill are amortized over their weighted average amortization period, unless they are determined to be indefinite. Acquired intangible assets are carried at cost, less accumulated amortization. Accumulated amortization is just intangible asset's counterpart to accumulated depreciation that we had for the fixed assets. For those assets that have an indefinite life, we do not amortize them. Instead, they're tested for something called impairment on an annual basis. Basically that involves comparing the book value of the asset to some estimate of future cash flows, and if this estimate of future cash flows is deemed by management to be less than the book value, then the asset is said to be impaired. And the asset that has to be written down, and a loss is taken and shown on the financial, on the income statement, thereby reducing that income. So let's look at a couple examples of discussions of impairment. First the Home Depot financials. On page 38 of the Home Depot financial statements, you'll see a boldface heading, little bit past halfway down the page that says Stock-Based Compensation. Right above that is a paragraph that if you turn to the next to the last line in that paragraph it reads, intangible assets with indefinite lives are tested in the third quarter of each fiscal year for impairment, or more often if indicators warrant. There were no impairment charge related to other intangible assets for fiscal 2013, 2012, or 2011. Now let's turn to the UPS financial statements. On page 86 of the UPS financial statements, you'll see a table here that lists their intangible assets. It lists trademarks, licenses, patents, and other customer lists, franchise rights, capitalized software, and you also see in the first column the gross carrying amount. That's essentially the cost of those assets. And to the right of that is a column with the accumulated amortization. The difference between those two giving you the third column which says net carrying value. Carrying value is just another term for book value. For some reason with intangible assets, it's often referred to as a carrying value rather than a book value. At any rate, let's see what it says after this table. Look at that paragraph it says, licenses with a carrying value of five million dollars as of December 31st, 2013 are deemed to be indefinite-lived intangibles, and therefore are not amortized. Impairment tests for indefinite-lived intangibles are performed on an annual basis. All of our other recorded intangible assets are deemed to be finite-lived intangibles, and are thus amortized over their estimated useful lives. Impairment tests for these intangible assets are only performed when a triggering event occurs that indicates that the carrying value of the intangible may not be recoverable. We incurred impairment charges on intangible assets of 13 million during 2013, while there were no impairments of any finite-lived or indefinite-lived intangible assets in 2012 or 2011. So in summary, the indefinite-lived intangible assets are tested for impairment, whereas the finite-lived intangible assets are routinely amortized. Now we need to talk about one specific intangible asset in a little more detail, and that intangible asset is referred to as goodwill. Goodwill arises when only when a company purchases an entire business unit. Not simply when it purchases a piece of equipment or a piece of land or any specific asset, but rather when it purchases an entire business unit such as an entire company or an entire division of a company. Goodwill arises when the purchase price is greater than the fair market value of the net assets. By net assets we mean the assets minus the liabilities because after all, when you're buying a business you're buying both its assets and its liabilities. So goodwill arises when the purchase price of the business is greater than the fair market value of these net assets and goodwill is a difference between these two and only when it's positive. Goodwill is considered an indefinite-lived intangible asset and therefore is tested annually for impairment. So let's look at some examples of companies referring to goodwill. First, NCR. On page 67 of NCR's financial statements, at the top, near the top anyway, you see an italicized heading that says, Acquisition of Retalix Limited. And then it says on February 6th, 2013, NCR completed the acquisition of Retalix Limited, for which it paid an aggregate cash purchase price of 791 million which includes three million dollars to be recognized as compensation expense. So down a little bit below you see a list of the items that they purchased. Cash and so forth, totaling 788 million. They deducted the three million dollars in compensation expense to arrive at that 788 million, and notice the fourth item down is acquired goodwill of 461 million dollars, that being the difference between the purchase price paid, the 788 million and the fair value of their net assets that are listed there. Now let's turn to the UPS financial statements. On page 66 of the UPS financial statements, there is a section near the bottom titled, Goodwill and Intangible Assets. And so let's read from the start of that section. It says, costs of purchased businesses in excess of net identifiable assets acquired, in other words goodwill, and indefinite-lived intangible assets are tested for impairment at least annually, unless changes in circumstances indicate an impairment may have occurred sooner. Now let's turn to the Home Depot financials. On page 38 of the Home Depot financials, there's a bold faced section titled, Goodwill and Other Intangible Assets. And turn to the second paragraph in the third line of that second paragraph where there's a sentence that reads, in fiscal 2012, the company recorded a charge of 97 million dollars to impair all of the goodwill associated with the former China reporting unit. And so that 97 million dollars would show up on income statement as a reduction in the company's net income for that year. Let's now discuss how we handle research and development. You might think that because of the matching principle research and development costs should be capitalized because after all, research and development generally does not only benefit the current period but benefits future periods as well, and the matching principle tells us that if we do have benefits in future periods, we should spread the expenses over those future periods as well. But the rule is that R&D is not capitalized but rather it's expensed immediately. And the reason is that because the FASB believes that there is so much uncertainty as to whether or not R&D will provide any benefits at all so therefore it must be expensed. I just want to mention that the international financial reporting standards distinguish between research and development. For the research costs, those must be expensed. The development costs however are capitalized. But again, with GAAP, with US GAAP, both research and development costs are expensed immediately when incurred. And to see a reference to that in the financials of NCR, turn to NCR's financials. Look at page 58 of the NCR financials. At the bottom there's a bold faced heading that says, Research and Development Costs, and it reads, research and development costs primarily include payroll and benefit-related costs, contractor fees, facilities costs, infrastructure costs, and administrative expenses directly related to research and development support and are expensed as incurred, except certain software development costs that are capitalized after technological feasibility of the software is established. So that's a good segway into our next topic which deals with an exception to this rule about R&D, dealing with software technology. Software development costs are a special form of R&D that may be capitalized because it's considered that the economic viability can be determined more accurately and earlier than other forms of R&D. So capitalization will begin when this notion of technological feasibility is reached. Software costs that are incurred prior to that point are expensed just like any other R&D would be. So what do we mean by technological feasibility? We mean that sufficient development progress has been made to ascertain that the software will meet its design specifications. In other words, it's when management believes that the software will work. Now the capitalization ends and then amortization begins when the product is available for general release. So to summarize, before this point of technological feasibility, the R&D for this software is expensed. Between the point of technological feasibility to the general release of the software, any of the costs incurred are capitalized, and then after general release, these capitalized costs are then amortized to expense. Now let's turn to NCR's financials to see the discussion relating to this. Turning to NCR's financials on page 57, near the bottom there's a bold faced heading that says, Goodwill and Other Long-Lived Assets, and in the second paragraph underneath that it reads, costs incurred for the development of software that will be sold, leased, or otherwise marketed are capitalized when technological feasibility has been established. These costs are included within other assets and are amortized on a sum-of-the-years' digits or straight-line basis. These were two of the methods of depreciation that we talked about earlier. Over the estimated useful lives ranging from three to five years, using the method most closely approximates the sales pattern of the software. Amortization begins when the product is available for general release. Costs capitalized include direct labor and related overhead costs. Costs incurred prior to technological feasibility or after general release are expensed as incurred. So what they're saying there is entirely consistent with what we had mentioned earlier about how the software development costs are handled. This now concludes our discussion of the assets section of the balance sheet and in our next session, we'll start on the liability section of the balance sheet, so we'll see you then.

**M1.T3.L4 – Liabilities**

- [Dr. Schneider] Hi, welcome back. Today, we're going to begin discussing the liabilities section of the balance sheet. First of all, we're going to talk about current liabilities, and then, non-current liabilities. Current liabilities are those that are due within one year. Examples include accounts payable, wages payable, income taxes payable. Got lots of different accounts that have the word payable in it, but not all liabilities have the word payable in it. An example would be unearned revenues. These represent monies that the company receives in advance of sending their goods out, or performing their services. For example, if a company receives cash from customers who buy gift cards, let's say to their restaurants. So that is a liability because the restaurant, the company, the restaurant, will need to provide meals, at a later date. So they've got a liability to provide meals, and this is called unearned revenues. Another one that is worth mentioning is estimated warranty liabilities. If you think about a company that sells a product that has, say, a two year warranty, sells a product in 2015. And a warranty claim is made for a defect in 2016. So if the company were to record an expense for this warranty claim in 2016, they'd be violating the matching principle, because they recorded the revenue in 2015. So, instead, what is done is that when the sale is made, in 2015, the company has to record an estimated warranty liability, as well as an expense on the balance sheet. And to see an example of that kind of discussion, let's turn to the financials of NCR. On page 58 of the NCR financials, near the bottom, you'll see a bold-faced heading, a title that says, "Warranty and Sales Returns." And it reads, "Provisions for product warranties "and sales return allowances are recorded "in the period in which NCR becomes obligated "to honor the related right, which generally "is the period in which the related product revenue "is recognized," in other words, when the sale is made. "The company accrues warranty reserves," just saying they record the warranty liability and the warranty expense, "based upon historical factors "such as labor rates, average repair time, "travel time, number of service calls per machine, "and cost of replacement parts. "When a sale is consummated, a warranty reserve," in other words, the liability and expense, "is recorded, based on the estimated cost "to provide the service over the warranty period." Now, we'll talk about contingent liabilities. These are potential liabilities that may occur. We've actually encountered one of these, sometime in the past, when we talked about receivables. We mentioned that when receivables were factored at a discount with recourse, a contingent liability arose. So, in general, contingent liabilities result from things like discounting, or factoring of notes, lawsuits, guarantees made on behalf of other companies, and things like that. To see a couple of examples, first, let's turn to the financials of Home Depot. On Home Depot's financial statements, at the top of page 50, it reads, "At February 2, 2014, the Company was contingently liable "for approximately $372 million under outstanding "letters of credit and open accounts issued "for certain business transactions, including insurance "programs, trade contracts, and construction contracts." And then, now, let's just skip to the next paragraph, where it says, "The Company is involved in litigation "arising from the normal course of business. "In management's opinion, this litigation "is not expected to have a material adverse effect "on the Company's consolidated financial condition, "results of operations or cash flows." So, at any rate, these contingent liabilities are being disclosed in the notes to the financial statements, they're not being recorded on the balance sheet as actual liabilities. Now, let's turn to the financials of UPS. On page 91 of the UPS financial statements, there's a bold-faced heading that says, Note Eight, Legal Proceedings and Contingencies. And the second paragraph down from that, look at the end of the second line, where it reads, "We have accrued for legal claims when, "and to the extent that, amounts associated "with the claims become probable "and can be reasonably estimated." Now, this is rather unusual for lawsuits, them saying that they can reasonably estimate what the loss will be. And, if it is probable, then they actually do have to record a liability. But the ordinary situation is, where either it's not probable to have a loss, or they cannot reasonably estimate it, and then only disclosure in the notes is required, and that's mentioned in the next paragraph, so let's read that. It says, "For those matters as to which "we are not able to estimate a possible loss "or range of loss, we are not able "to determine whether the loss "will have a material adverse effect on our business, "financial condition, or results of operations of liquidity. "For matters in this category, we have indicated "in the descriptions that follow "the reasons that we are unable to estimate "the possible loss or range of loss." So, what they're saying is, they go on to describe the nature of the lawsuits, but they are not recording liabilities for them, on the balance sheet. Now, we turn to long-term liabilities. These are liabilities due beyond one year. Examples might be notes payable, that have due dates beyond a year. Mortgages payable, really, are just the special forms in notes payable that have collateral, associated with them. Lease obligations, which we'll talk about, in another minute or so. Deferred taxes, we'll also talk about a little bit later. Bonds payable, we'll talk about in a future session. And pension obligations are rather complex, so we're not really gonna be talking about them, at all. When we record long-term liabilities on a balance sheet, we record them based on the time value of money concept, which says that a dollar a year from now, is not the same as a dollar now. Because of things like inflation, or the investment value of money, money in the future is not worth the same as money right now. And so, therefore, we record these long-term liabilities, at their present values, where we take future amounts, and discount them to obtain present values. In this module, we're not gonna get into how that's done; in your finance modules, you will be talking about how present values are established. Now, let's talk about lease obligations. We distinguish between an operating lease and a capital lease. An operating lease is just simply a short-term rental agreement, and therefore, the amount that's paid for that is recorded as an expense on the income statement. Rent expense, or lease expense. On the other hand, a capital lease is where an asset and liability will be recorded on the balance sheet. So, to give you some background for that, suppose you had a company that wants to buy a building for $10 million. And suppose that it would issue a note payable, for $10 million, or mortgage payment, for $10 million. So they'd have a liability, and an asset, both for $10 million, and you might think it's a wash, because both assets and liabilities are the same amount. However, when it comes time, maybe for some future borrowing, if the company already shows a $10 million liability, even if they have the same amount in assets, they may not easily be able to borrow money. Lenders might be wary of them being able to pay, so companies don't like to show large amounts of liabilities on their balance sheet, even though it might be associated with the same amount of assets. And so, therefore, instead of buying assets, companies sometimes like to lease them. However, the FASP has ruled that if the lease agreement looks like a purchase, then it must be really treated like a purchase where the asset and liability are recorded at the present value of the future payments, and we call that a capital lease. The criteria for requiring a capital lease are that the lease be non-cancelable, and one of four conditions hold. One condition would be, if there's a chance for ownership at the end of the lease term. Another would be, if there's an option to purchase the assets at a bargain price. The bargain price determination being made by management, it's their judgment call as to what's a bargain price. The third is where the lease term is more than 75% of the asset's life. And the fourth initial would be that if the present value of the lease payments are more than 90% of the asset's fair market value. So if any one of these four conditions hold, together, with the lease being non-cancelable, then the company must treat it as a capital lease, meaning that they must record it as an asset and a liability on the balance sheet. And, to see an example of a company reporting a capital lease, let's turn to Home Depot's financials. The Home Depot financials, on page 40, look about, a little past halfway down the page, and you'll see a couple columns of numbers, one titled Capital Leases, and the other, titled Operating Leases. So, Home Depot has both forms of leases, and if you look at the capital lease column, at the end of that, it says $468 million of long-term capital lease obligations, which include the current installments. Now, let's talk about another liability called deferred taxes. This results from the difference between taxable income on the gap Income Statement, versus taxable income for the IRS. And I might add that what we're talking about here is timing differences, rather than permanent differences. A permanent difference results when the item appears on one of the two, but not on the other. An example might be, interest on municipal bonds. Interest received from bonds purchased, say, from, the city of Atlanta, selling bonds, the interest received from that would be treated as revenue on the company's Income Statement, just like any other revenue. However, for tax purposes, Congress has decided that they want to promote investment in municipal bonds, so they do not tax the interest on municipal bonds. So, it'll never appear as revenue on the tax return from the IRS. So this is a permanent difference, and this is not what deferred taxes refers to. Again, deferred taxes refers to just a timing difference, where the item appears on both the gap Income Statement, as well as taxable income for the IRS, but just in different time periods. A common situation for that is depreciation, where companies use straight line depreciation most often for gap financial statements, but they'll use some form of accelerated depreciation for the tax return. So, let's look at NCR's financials, and, actually, we'll see that deferred taxes often give rise to liabilities, but, sometimes, they give rise to assets. On page 79 of the NCR financials, you'll see about a quarter of the way down, a bold-faced heading that says "Deferred income tax assets." And it includes things like employee pensions and other benefits, other balance sheet reserves, allowances, and so on, and then, below that, there's another bold-faced heading, titled "Deferred income tax liabilities." And it includes things like intangibles, capitalized software, and other. So, at any rate, companies often have deferred taxes, resulting in liabilities, or assets, or, perhaps both, like you see with NCR. So, this concludes our discussion of liabilities in this section. Actually, in the next session, we'll continue our discussion with liabilities, but we talk about bonds, so we'll see you next time.

**M1.T3.L5 – Bonds**

- [Dr. Schneider] Hi, welcome back. Today we'll continue our discussion of liabilities by covering bonds payable. Bonds are ways of raising money by companies instead of going to a bank and borrowing, you'll just issue bonds and raise money from the general public. And these are publicly traded. When the bonds are redeemed by the bond-holders, the company must repay the principle amount, sometimes called a face-amount of the bonds, plus interest. They typically pay interest once a year or twice a year on these bonds. So the face value is the amount the company needs to pay the bondholders when the bonds mature and this amount is not necessarily the initial selling price of the bond. Because the selling price really depends on the relationship between the stated interest rate on the bonds and the market rate of interest. Suppose a company has bonds that are paying a stated rate, in other words, the bond contract rate is 7%. But now suppose that the market is paying 8% okay, 1% higher for those bonds that have similar risk characteristics and so you think about a bondholder investing in these bonds, why would they invest in bonds that are paying a 7% interest when they can get similar bonds that are paying an 8% interest? Well, they would only do that if the company isssuing bonds offers them a discount. So for example, these were $100,000 face value bonds and the company said, "Well, you only need to pay in $95,000 and you'll get $100,000 when the bonds mature." in return for you accepting a 1% lower interest rate than the market is offering. Now suppose we have the other situation, where the stated interest rate is more than the market. Suppose the stated interest rate again is 7%, but now the market is only 6%. So of course people would want to invest in these bonds, but the company knows this and they know that a person would actually be willing to pay extra, they'd be willing to pay a premium in order to receive the extra interest. So these bonds that have a face value of $100,000 might sell for $102,000 because they're offering the extra 1% interest every year. Now, by the way, the reason that the market rate of interest is often different than the stated rate is because it takes some time from when the bond contract is determined to the time that the investment bank actually puts these bonds out to the public. It may involve a couple of months later, and the market rate of interest may have changed during that time. Alright, let's now look at the UPS financials. On page 87 of the UPS financials, you see a list of their long-term liabilities. And about halfway down the list they have 8.375% debentures, and they've actually got two categories of those. By the way, Debentures means unsecured bonds. And the 8.375% is the stated rate that those bonds are paying their bondholders. The presentation for bonds that are issued at a discount is that the face amount is listed first, in the example I have here it's $100,000 and then the discount is deducted. In this example, $3,000 to arrive at the net amount of $97,000, which we refer to as the carrying value of the bonds. So the carrying value will be less than the face amount and over time it actually approaches the face amount so that by maturity it ends up being the face amount. A premium, on the other hand, we start out with the face amount, in this case $100,000 and we would add the premium amount, which in this example is $4000, to arrive at the net amount of $104,000, again called the carrying value and we see that for a premium the carrying value of the bond is more than the face value and over time it actually decreases to the point, where, at maturity the carrying value will be the face amount. So let's look at an example of the relationship between carrying values and the face amount for UPS financials. On page 87 of the UPS financials, I refer to the same 8.375% debentures that we saw earlier. If you look in the first column of numbers, it's titled Principle Amount, for the first debentures that are due in the year 2020, you see the principle amount is 424 million whereas if you look at the last couple columns the amounts are higher, 479 million and 512 million, both being higher than the 424 million. Therefore, one concludes that these bonds were sold at a premium because the carrying values are higher than the principle amount. Same thing with the debenture right below that that's due in the year 2030. The carrying values of 283 million and 284 million are higher than the principle amount 276 million, therefore we conclude that those bonds also were issued at premiums. Bonds sometimes have a feature of convertablity. That is, they may be convertible into shares of stock at the option of the bondholder. This feature is not common, but sometimes you do see that with bonds. Another feature that sometimes is associated with bonds is that of callability. This is where the company that issues the bonds has the option to require that the bonds be redeemed before the maturity date. The reason that happens is because the company, let's say, is paying 5% interest on those bonds and suppose that the interest rates have gone down to 2%, why the company calling in those bonds, they can then issue new bonds and only have to pay 2% interest instead of 5%. At any rate, when bonds are called-in, there's usually a gain or a loss on this early retirement. If the cash that's paid to the bondholders is more than the carrying value of the bonds, then a Loss of Unretirement is recorded, whereas if the cash paid for these bonds to the bondholders is less than the carrying value of the bonds, then a Gain of Retirement is recorded. These gains or losses appear on the income statement, the gains increasing the net income, the losses decreasing the net income. Let's now conclude by comparing features of bonds versus capital stock. These are two forms that a company can use to raise money from the public. Borrowing in the form of bonds or issuing shares of stock. So for bonds, if we look at the first bullet point listed, this indicates that bonds must be repaid to the bondholders. Whereas if you look at the first bullet point for capital stock, we see that no repayment is ever made or needed to be made to the stockholders. Looking at the second bullet point for bonds, we see that bonds need to pay interest to the bondholders. That's required. Whereas in the second bullet point for capital stock we see that companies need not pay dividends. They often do, but it's not required. The third bullet point for bonds indicates that interest is deductible as an expense. It will reduce the company's net income. Whereas in the third bullet point for capital stock we see that dividends are not deductible. Dividends are not expenses, they're merely distributions of earnings. So these first three bullet points would seem to suggest that there's an advantage in issuing stock. No repayment, no paying of dividends is necessary, no expense to reduce net income. So what's the advantage of bonds? Well, look at the fourth bullet point that says no dilution of ownership for bonds, whereas the fourth bullet point for stocks says that we have a dilution of ownership when we issue capital stock. If, let's say the stockholder owns 1% of the company and the company issues additional shares of stock and that stockholder doesn't buy any, then that stockholder will subsequently own less than the 1% that he had before, so there's a dilution. Whereas when bonds are issued there's no effect on the percentage of ownership of the company. So that would be an advantage of issuing stock. This concludes our discussion of the liability section of the balance sheet. And in the next session we will start on the capital stock, or the stockholder's equity section of the balance sheet. So we'll see you then.

**M1.T4.L1 – Capital Stock**

- Hi, welcome back. Today we begin the discussion of the stockholder's equity section of the balance sheet, first focusing on capital stock. In the stockholder's equity section, there's two categories. One is paid in capital, the other is retained earnings. The paid-in-capital section involves the accounts that deal with capital stock. Before talking about these accounts, let's talk about shares of stock. A company has a number of authorized shares that are allowed to be sold by their by-laws and these authorized shares can end up either being issued meaning sold, or unissued meaning never been sold. Now these issued shares, the ones that have been sold can either be outstanding, which means still in the hands of the stockholders or the company may have bought back some shares from stockholders, and those are called treasury shares. Now, the key one here is the number of outstanding shares 'cause the outstanding shares are the ones that are used in determining earnings per share. Recall that was the ratio of the net income divided by the number of shares and so the denominator, the number of shares is the outstanding shares. Also, when companies pay dividends, they pay dividends only to the outstanding shares of stock. So to see these distinctions, let's look at the financials of Home Depot. Turn to page 30 of the Home Depot financials and about 3/4 of the way down, you'll see bold-faced heading titled Stockholders' Equity and the first item in that section says, Common Stock, par value five cents we'll talk about par value later, then it says, authorized, 10 billion shares issued 1.761 billion shares at February 2, 2014 and then skip over to where it says, outstanding, 1.38 billion shares at February 2, 2014. So, three different numbers there. 10 billion for the number of authorized, 1.761 billion for the number issued and 1.38 billion shares for the number outstanding. Companies often have two categories of capital stock. Namely, common stock and preferred stock. To see an example of that, let's turn to NCR's financials. Turn to page 52 of NCR's financials and about 3/4 of the way down, you'll see a bold-faced heading titled Stockholders' Equity, then it says NCR's Stockholders' Equity and underneath that, it has both preferred stock and then, common stock. Although with preferred stock, if you look at the columns and numbers, instead of numbers, you'll see dashes, indicating that, while they've authorized preferred stock to be sold, they have not yet issued any shares of preferred stock. They have issued shares of common stock, as you see two million shares in both 2013 and 2012 have been issued for common stock. The term preferred stock would seem to suggest that there's preferences for these preferred stockholders and indeed, there are. One preference is relating to dividends. Before common shareholders can receive any dividends, preferred shareholders must receive the dividends that are coming to them. We'll talk about more of how dividends are distributed to the preferred and common shareholders, in subsequent session. The other preference relates to liquidation. If the company liquidates, if it goes belly up, let's say, and is unable to pay creditors and shareholders, well first, the creditors must get paid. But among the stockholders, the preferred shareholders must get their share before the common shareholders get anything. So what's the advantage of common stock? The advantage of common stock is that they have the main voting rights. Not always exclusive voting rights, sometimes there's limited voting rights to preferred shareholders. But the common shareholders do have the main voting rights and therefore, they are the true owners of the corporation. They decide on the Board of Directors and so on. Sometimes, there's different classes of common stock that have different rights. So let's turn to the financial statements of UPS to see this. Turn to page 93 of the UPS financial statements and look at the bottom paragraph. It reads, we maintain two classes of common stock which are distinguished from each other by their respective voting rights. Class A shares of UPS are entitled to 10 votes per share, whereas class B shares are entitled to one vote per share. Class A shares are primarily held by UPS employees and retirees, as well as trusts and descendants of the Company's founders, and these shares are fully convertible into Class B shares at any time. Class B shares are publicly traded on the New York Stock Exchange under the symbol UPS. So it mentioned this convertibility feature and indeed, just like we talked about bonds sometimes having a convertibility feature into shares of stock. So also, with stock you have different classes being converted with the other, where sometimes they have preferred stock being convertible into shares of common stock. Shares of capital stock usually have a value associated with them called par value or stated value. This is just a nominal value assigned to and printed on the face of each share of the corporation stock. It has no resemblance at all to the worth in stock, that is, to the market value of the stock. The coming about of par value or stated value goes back about a century ago, before the stock market crashed in 1929, where companies were paying out lots of dividends and when the companies ran into trouble and went belly up, the creditors were left with nothing. So, to try to protect creditors, many states instituted these notions of par value, or stated value, which said that a company could not issue stock below an amount called the par value or stated value, in order for them to have that amount and then keep it on hand and not distribute it in the form of dividends, again, to protect the creditors. However, no minimum amount was ever established for par values or stated values. So, to think about a company wanting to have as much flexibility as possible, they tend to have par values that are very low because they're not allowed to issue the stock below the par value. They can issue it above, but not below. So, discount is allowed, Sorry, discount is not allowed, only a premium is allowed. Let's look at the financials of NCR first. On page 52 of NCR's financials, we see near the bottom, the section titled Stockholders' Equity and the first item in that category is preferred stock, where it says par value of $0.01. Same thing with the common stock, right below that. Par value of just $0.01 and then below that, what you see is another account titled Paid-in-Capital. So the rule is, that in the accounts preferred stock and common stock, only the par values or the stated values amounts can be put there and any premium amounts, any excess amount has to be put in a separate account which for NCR, is just called paid-in-capital. For many other companies, there's different names like, additional paid-in-capital or paid-in-capital in excess of par. Let's now look at the financials of Home Depot. Turn to page 30 of Home Depot's financials and about 3/4 of the way down the page you'll see a bold-faced title Stockholders' Equity. Right underneath that, you'll see common stock, par value $0.05. So again, only the par value is put in that account. So, for the first column of numbers, February 2, 2014, you'll see 88 million. That represents just the par value. The excess over the par value is put into the account right below that, called paid-in-capital of eight billion, 402 million dollars. Sometimes, companies buy back shares of stock from the shareholders. This is referred to as treasury stock. This happens for various reasons. Sometimes, the company will want to issue stock options to their top management and they will have not enough unissued shares of stock, so they'll have to buy back shares in order to give these stock options as compensation to top executives. Sometimes, companies want to prop up the price of their stock by reducing supply of stock out there, so they do that by buy-back shares of stock. Another reason sometimes, is to increase the earnings per share. Recall earnings per share is the net income divided by the number of shares outstanding. So, one way of increasing earnings per share is to increase net income. The other way is to reduce the number of shares outstanding. That is, to reduce the denominator and that's accomplished by buying back the shares of stock from shareholders, which again is referred to as treasury stock. So those are some of the reasons. Now the accounting of treasury stock. Treasury stock is not considered an asset. If you think about a company that buys shares of stock at another company. That is treated as an asset. But, buying back shares of the company's own stock is not considered an asset, but rather, it's a deduction in the stockholders' equity section of the balance sheet and therefore it's called a contra-equity account. So let's look at this in Home Depot's financials. On page 30 of Home Depot's financial statements, the bottom of the page shows the stockholders' equity section of the balance sheet and near the very bottom, you see treasury stock at cost 381 million shares and so forth and so on and looking at the first column of numbers, you see a negative 19,194. There's parenthesis around the 19,194 indicating it's being deducted in the stockholders' equity section because it is a contra-equity account. When treasury stock is purchased from shareholders, it is recorded at the cost, not the par value. The par value is not relevant at all for that. Now, when treasury stock is sometimes reissued, doesn't happen often, but sometimes it is reissued to shareholders. When that happens, there's no gain or loss that's reported on the sale of treasury stock. Now when the company sells assets, as we've seen in an earlier session, there very often is a gain or a loss when selling an asset. However, since treasury stock is not an asset, there's no gain or loss that is recognized when treasury stock shares are sold. This concludes today's session and in the next section, we'll talk further about the stockholders' equity section of the balance sheet. So, we'll see you then.

**M1.T4.L2 – Cash Dividends**

- [Dr. Schneider] Hi, welcome back. In today's session, we're going to be covering the stockholder's equity section further, specifically the retained earnings portion of stockholder's equity, and more specifically, cash dividends, which decreases retained earnings. There's three important dividend dates to discuss in relation to cash dividends, the first is the date of declaration. That's when the board of directors votes to pay dividends, and it is at that time that the dividend payment becomes a liability of the corporation, and so it's on that date that the liability for dividends would appear on the company's balance sheet. The third date, that's pretty straightforward, the date of payment, that's when the cash dividends are actually paid out by the company, the middle date, called the date of record, just indicates who is to receive the dividends. So for example, if a company declared dividends on October first, and they paid the dividends on November first, then the question becomes what happens if there is a sale of the shares of stock, between October first and November first, who gets the dividends? So the determination of who gets the dividends, is according to the date of record that's established by the company on the date of declaration, when they declare dividends, they will specify a date of record, so for my example it might be October 20th, such that, whoever owns the stock on October 20th is the one that receives dividends, and everybody knows this, so that'll be reflected in the price of the stock when it is sold between the declaration date and the payment date. When we talked about preferred stock versus common stock, we mentioned that preferred stock has a couple preferences, one in terms of liquidation and the other in terms of dividend preferences, so now we're gonna talk about the specific dividend preferences that may be associated with preferred stock. One type of preference is called the current dividend preference, and another is called the cumulative dividend preference. Let's first talk about the current dividend preference. This is where the preferred stockholders get a percentage of total par, that percentage being called dividend rate, and then, the common stockholders get the remainder of whatever has been declared. So as an example, suppose a company has 10,000 shares of 5% preferred stock, the 5% being the dividend rate, having a par value of $10 per share, so we would calculate the current dividend preference by taking 5% of 10,000 times 10, 10,000 times $10 would be 100,000, that is the total par, and 5% of that would be $5,000. So if the company declared dividends in the amount of $4,800, the preferred shareholders would get it all, the common shareholders would get nothing. If the company declared dividends of $5,500, the preferred shareholders would get 5,000, and the common shareholders would get the remaining 500. Suppose a company were to declare $1,000,000 in dividends, the preferred shareholders would get only 5,000, and the common shareholders would get the remaining 995,000, that's the way the current dividend preference works. Now let's talk about the cumulative dividend preference. This is where the preferred stockholders get the current dividend preference, plus they also get any dividends in arrears, arrears refers to the missed dividends from past years, the dividends that they would've gotten had the company declared dividends in the amount of the dividend rate, and then once the preferred stockholder's current dividend preference plus the dividends arrears are satisfied, then, and only then, the common stockholders get the remainder of what's been declared. So, going back to the example that I gave before, again where the company has 10,000 shares, of 5% preferred stock, with a par value of $10, but now let's add to that the situation where no dividends have been paid for the past three years, prior to the current year. So we wanna know what is the cumulative dividend preference for this current year, and we get that by taking the current dividend preference, which we calculated earlier to be $5,000, and we multiply it by four, the four coming from the three years in arrears, plus the current year, and so 4 times 5,000 would be $20,000. So for example if the company declared dividends in the amount of $18,000, the preferred shareholders would get it all, and also, $2,000 would remain in arrears. Suppose the company declared $25,000 in dividends, the preferred shareholders would get 20,000, the common shareholders would get 5,000. If the company declared $1,000,000 in dividends, the preferred shareholders would still just get 20,000, the common shareholders would get the remaining 980,000. So the question becomes how are these dividends in arrears treated on the company's balance sheet? Are they reported as liabilities on the balance sheet? And the answer is that they do not represent actual liabilities and thus they're not recorded in the accounts, they're not put on the balance sheet, the reason being because the company really never has to declare dividends, they never have the pay dividends, and so therefore these dividends in arrears, while they're likely to be paid in the future, there's no legal obligation to do so, and so therefore, there's no actual liability, and nothing on the balance sheet itself. However, the amount of dividends in arrears does need to be reported in the notes to the financial statements. So this concludes this session on cash dividends, in the next session, we'll conclude our discussion of stockholder's equity. See you then.

**M1.T4.L3 – Other Stockholder Equity Items**

- Hi, there, in this session, we are gonna conclude the discussion of stockholders' equity by talking about some additional stockholders' equity items. First item we'll talk about is stock dividends. As opposed to cash dividends that we talked about in the previous session, these are dividends that are distributions of additional stock in proportion to the shareholder's current holdings. So for example, if the company declared a 10% stock dividend and say a shareholder currently has 100 shares to stock, then they would receive an additional 10 shares. 10% of 100 would be an additional 10 shares that they would receive. So why does a company issue stock dividens instead of cash dividends? Well, one reason could be that they just don't have the cash available. Another reason could be that they would rather invest their cash in other things, and a third reason really relates to the accounting that we'll talk about next, and that is the accounting involves a transfer from retained earnings to paid-in capital, so it reduces retained earnings. Now, sometimes, when companies have high amounts of retained earnings and they're not paying dividends, stockholders have been known to sometimes complain about it. They feel that the company is earning a lot of profits and therefore, they should distribute some of those, and so to avoid the clamor that might be raised by the stockholders, companies could issue stock dividends, thereby transferring some of these retained earnings to paid-in capital. Alright, so the effects of stock dividends are, first, they increase the number of shares outstanding and secondly, as I just mentioned, they transfer retained earnings to paid-in capital, so therefore, the total stockholders' equity's not changing. It's just that there's distribution within stockholders' equity that's changing. And stock dividends have no effect on assets. They have no effect on total owners' equity and they have no effect on the percentage ownership of stock by the shareholders. If a shareholder currently owns 3% of the company's total stock, then even after a stock dividend, they will still own 3% of the company's total stock. Now let's talk about stock splits. These are designed to increase the number of shares of stock and reduce the par value per share, so that there'll be no effect on the accounts, specifically no effect on the common stock or the preferred stock account that appears on the balance sheet. So for example, suppose that there was a two for one stock split. That would mean that the number of shares would double, so if before stock split, the company had 1,000 shares of stock, then after this two for one stock split, they would then have 2,000 shares. Suppose the par value were two dollars before the stock split, then a two for one stock split would reduce the par value in half to a dollar, so that the total amount of paid-in capital would stay the same. Before the stock split, 1,000 shares times two, total of 2,000; after the stock split, 2,000 shares times one, same $2,000. Why do companies do stock splits? Generally to reduce the market value per share of their stock, to make it more affordable for the everyday person to buy their stock, so not only does it reduce the par value, but when you double the number of shares, the market price will be cut in half as well 'cause after all, the total market value of the company is not changing just because a company doubles the number of shares that it has. Sometimes, companies do reverse stock splits, and as the term seems to indicate, this is just the opposite of a stock split. This decreases the number of shares of stock and increases the par value per share of the stock, and again, like with the stock split, it has no effect on the accounts on the balance sheet, no effect on total paid-in capital. So again with the example before, suppose we started out with having 2,000 shares at one dollar par value, so a one for two stock split would decrease the number of shares from 2,000 to 1,000, but it would double the par value per share from one dollar to two dollars, so that both before and after the reverse stock split, the total paid-in capital would be 2,000. Why do companies do reverse stock splits? One reason is because various stock exchanges have rules about the minimum trading price of the stock on the stock exchange, so for example, if the rule is the stock has to have a trading price of at least a dollar, then if a company's stock is projected to be going below a dollar, so to avoid being de-listed, they might do a reverse stock split to prop up the market value per share. Another reason for why companies sometimes do reverse stock splits is that certain pension funds, in particular, have rules about the market value per share of stocks they invest in. I believe five dollars a share is one of the limits, one of the lower limits, I believe, for some pension funds, so then if a stock is trading below five dollars, the pension fund would not be able to invest in it, and so if a company sees a stock about to go below that five dollar amount, then by doing a reverse stock split, they increase the price so that there's no danger of them not being able to have pension fund investors. Also in the stockholders' equity section, there will be often an item called non-controlling interests. These relate to consolidated balance sheets, which recall from a previous session, we talked about that as occurring when a company owns more than 50% of another company, so the non-controlling interest would be, in these consolidated balance sheets, the portion of owners' equity that's not controlled by the parent, so suppose a company owns 70% of another company, then those balance sheets would be consolidated and the question is how to account for the remaining 30% of the equity, which is referred to as non-controlling interest. Now, several years ago, there was three options that companies could use and did use. One was to put this non-controlling interest in stockholders' equity. A second was to put it in a liability section, and a third was to put it in what I'll call no man's land. In other words, between liabilities and stockholders' equity and in fact, many companies did so, but about three or four years ago, the FASB finally said that it's just gonna be stockholders' equity and that's it, no other options. Last item is stock-based compensation, how to handle that. So when a company compensates its employees with cash, okay, its salaries, its wages, that is an expense. That is recorded on the income statement as salary expense or wage expense. What about when a company compensates its employees by giving them things like stock options, the option to purchase shares of stock in a future time, typically at a bargain price? So for the longest time, there have been debates about whether or not this should be recorded as an expense on the income statement or not at all, and until just a few years ago, the rule was that companies could essentially do whatever they wanted and most companies did not report it at all on the income statement as an expense, but a few years ago, the FASB decided that stock-based compensation must be expensed, much to the chagrin of particularly startup companies that compensate their employees to a large degree with things like stock options, so they would have to then report large amounts of expense on the income statement that they did not have to before, but nevertheless, despite that opposition, the FASB did rule that stock-based compensation must now be expensed. So that concludes our discussion of stockholders' equity, and in fact, that also concludes our discussion of the entire balance sheet. In the next section, we'll talk about how we use financial ratios to analyze the financial statements of companies. See you then.

**M1.T4.L4 – Ratio Analysis**

Hi, welcome back. Today's session will conclude our discussion of financial accounting by talking about ratio analysis. We use financial ratios to identify a company's strengths and weaknesses and also to forecast future performance of the companies. Companies do not have to report ratios in their annual reports or their 10k filings for the SCC or to any other external users. The only ratio that actually needs to be reported by the company is earnings per share, which appears on the company's income statement. However companies often do report other ratios and even if they don't report ratios externally, they use many ratios internally. And we'll talk about four different categories of ratios. Ones dealing with liquidity, ones dealing with capital adequacy, ones dealing with asset quality, and other dealing with earnings ratios. So first let's talk about ones dealing with liquidity. The ratios that we're trying to get at here are those that help us analyze the company's ability to meet it's short term obligations. So I've got a couple of examples of liquidity ratios. One is called the current ratio which is the ratio of current assets to current liabilities. We call the current assets are those that are expected to be converted into cash within a year. And current liabilities are those liabilities that are due within one year. So we'd like to know the company's ability to be able to pay off it's current liabilities and it's likely to do so with things like receivables, cash, inventories, and things that can be fairly easily convertible into cash. And we like this current ratio to be more than one because after all we like to have current assets in a greater amount than current liabilities. A more conservative ratio is referred to as the quick ratio or sometimes called the asset test ratio where the denominator is the same as the current ratio but the numerator only includes three specific current assets. One is cash, another is marketable securities and a third is receivables. Notably, it excludes inventories. The reasoning being that inventories may not easily be converted into cash so soon. It may take maybe five or six or seven or eight months to sell off some inventories. And so this is just a more conservative measure. It's trying to get at what are the quick assets. And so again we like this quick ratio to be well above one. Another side of ratios deals with capital adequacy. First one is called the debt ratio which is the ratio of total liabilities to the company's total assets. And companies often like that number to be somewhere close to 50%. You don't want it to be real high because you don't wanna have a lot of obligations in relation to the assets that you have. But also you don't wanna be close to zero generally because companies usually feel that with some borrowing, they should be able to invest that money in their company and earn a higher rate of return than the cost of borrowing. So again you like to see this debt ratio not real close to one and not real close to zero. Another capital adequacy ratio is referred to as the interest coverage ratio. And that's getting at the company's ability to meet it's interest obligations. So the numerator has earnings before interest and taxes which is essentially the resources that the company has in order to pay off the interest. And that's divided by the interest expense. And you'd like that to be well above one. Another set of ratios is referred to as asset quality ratios. First one here is the inventory turnover ratio which is the ratio of cost of goods sold to the average inventory. Typically the average inventory is determined by taking the beginning inventory, plus the ending inventory, and dividing by two. So just a simple average of the beginning and ending inventories. Cost of goods sold, you don't have that issue. It's an income statement number so it is the number for that year. And with the inventory turnover ratio is getting at is how quickly the inventory is moving. And more specifically, it gets at how many times the inventory has been sold during the year. And for this ratio, the higher the better. Another asset quality ratio is the asset turnover ratio. Here we're looking at the ratio sales to average total assets. And like we said for average inventory, we typically get the average total assets by taking the beginning of the year total assets, plus the end of the year total assets, and dividing by two. And this ratio is trying to get at how efficiently the company's assets are being used to generate sales. So this ratio too, you want it to be high, the higher the better. And four set of ratios that we'll discuss are earnings ratios. Fist one here is a profit margin ratio which is the ratio of net income to sales. So in comparing net income of companies, it's not very meaningful to compare large companies to small companies. So by dividing by sales, we're enabling a more meaningful comparison of this ratio of net income to sales across companies that have different sizes. And again with this ratio, the higher the better. Next one is the return on assets ratio which is the ratio of net income to average total assets. Again average total assets typically being the average of the beginning and ending amounts of the company's assets. And here we're trying to get at the efficiency with which the assets are being used to generate net income. And also it's meaningful for comparing across companies. Again like we said with the profit margin ratio, just simply comparing absolute amounts of net income really may not be meaningful when the companies are of different size. So by dividing by the average total assets this gives you a rate of return where you can meaningfully compare companies of different size. So this concludes our financial accounting module. And in the next session, we'll begin our managerial accounting module. See you then.