

# **Accounting Fundamentals**

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Like it or not, there are basic accounting concepts that must be understood in order to understand how a firm works. The accounting statements provide a picture of the firm, and a wise manager knows how to look at that picture and extract the most and best information possible that can then be used in decision making.

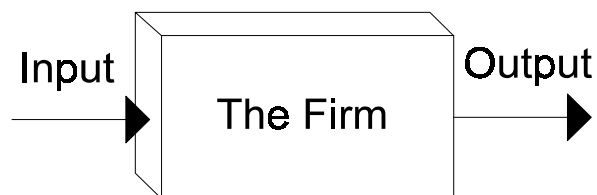
The good news is that the amount of accounting necessary to understand finance is fairly easy and intuitive. Professional accountants have all sorts of special rules and Generally Accepted Accounting Procedures (GAAP). What this really means is that at the detailed level even the professional accountants cannot agree on one single way to write their particular brand of fiction. But when it is considered that companies differ in size and mission from the small mom-and-pop stores to multinational conglomerates, it is not surprising that the same rules cannot apply to everyone.

The key to understanding accounting is to recognize that the purpose of accounting is not to give the answers. The only answers accountants provide are those that shut up the regulators and the tax men. The real purpose of accounting is to provide a model of the firm that can be useful in understanding what is happening inside the firm. It is this model that will help a manager understand what the accounting data is all about and allow him or her to put it into perspective. Neither the Income Statement nor Balance Sheet can convey complete information about the firm, but together they comprise a fairly complete and robust model that can be used for managing the firm.

## **The Firm**

Before beginning the exploration of the basic accounting statements, it is a good idea to recall just what they are trying to tell about the firm. The firm is the basic unit of business activity and can be a single-person operation or a multinational operation. Regardless of the size of the firm, there are common characteristics which tell us what is really happening. At the most basic level, the firm can be considered a box into which

“things” are put and out of which “things” come. The firm processes the input “things” to create output “things”, and to be successful the price paid for the output must exceed the price paid for the input.



This depiction of the firm is really too simple because it ignores other factors which might be significant. The quality of the labor force that works inside the box and the relationship of this box to other boxes called competitors and suppliers and bankers and all the other factors that exist in the various markets in which the firm operates are also important. A firm cannot operate in isolation. It needs sources of input and markets for its output. Accounting statements fail to provide a complete picture of the firm since they are not designed to show these types of relationships.

Another important characteristic of the firm is to identify exactly what a firm is. A firm is not a person or a place or anything a person can put his hands on. Buildings and machines can be touched, but they are not the firm. A firm is an artificial legal entity. It is the umbrella that is put over some business activity for the purpose of defining that activity. A firm pays taxes and can be sued in court, but the stockholders of the firm are not separately responsible for the actions of the firm even though they are the owners. That is the real trade-off. If every stockholder were legally responsible for all the actions of a business, it would be impossible to sell enough stock to organize a really big business endeavor like an automobile manufacturing facility. People are not willing to risk their entire future by placing it in the hands of someone else, but people may be willing to invest if their liability is limited. So the government, which has a stake in economic development, allows businesses to be organized so that investors have limited liability, and the government charges a fee for the privilege; this fee is called taxes. The reason the government can do this is because the government makes the laws.

Do not think of the firm as a person. The firm is an “it”, not a “he”, “she”, or “they”. A firm is a collection of physical assets and people organized to make "things" that other people can use. A firm is a collection of interrelationships, possibly formal contracts, that try to get the job done. If a firm has a corporate culture it is because the people inside the firm have established a set of behaviors that make the firm more efficient in its production of "things". It is the people who make the firm work, not people who work for a firm. This might seem like a small distinction, but it can be important when trying to figure out why a firm did something or is doing something. It is not the firm, it is the people.

The most important thing to watch for in analyzing any firm’s accounting statements is the “next question”. The accounting statements will not answer more than the simplest questions directly. By understanding what the different accounts are all about, a good manager can identify the important “next question” that will tell him what he really wants to know about the firm. The "next question" is usually "Why?", and while this might seem simple it can lead to information important to the decision process.

### **Industry Averages**

Sometimes it is necessary to have information about the environment of the firm when looking for the “next question”. It is all a matter of proportion. If Sam is six foot two inches tall, he may be tall when compared to most other men, but when compared to the typical professional basketball player he would be short. The problem with comparisons is finding something to compare to, and this is just as true with businesses as it is with anything else. Since most firms have competition of some sort, and these firms are all in the same business, it is sometimes valuable to compare a firm to its industry, specifically the industry averages.

It must be absolutely clear that the industry average is not some sacred number. If someone or something is average, he or it is just as stupid and ordinary as everyone and everything else. Since the goal of managing is to develop and run good firms, it might be smart to consider only those firms that beat the industry averages. But the industry average does have one very special characteristic; it is biased. Though bias should be

avoided in many forms of endeavor, sometimes a bias is itself a piece of valuable information. The industry average only includes firms that are going concerns, so the industry average is biased toward survivorship. A firm that meets the industry averages may not be the best or worst firm in the industry, but it has a good chance of surviving to the next period, and that is very important. A weak firm can be strengthened, and a strong firm can be made even stronger, but a dead firm is just plain dead. Once a firm is out of the game, there will be no more income for anybody. The industry averages give us the ability to ask questions concerning the relative probability of a firm surviving to play again.

### **The Income Statement**

The basic accounting statements have two specific functions. The first function is to tell the observer what is going on inside the box that is the firm, and the second function is to tell just how big the box is. Notice that these are two entirely separate functions, though they are interrelated. No single accounting statement exists that can do both jobs, and it is doubtful that one ever will. Big boxes can have little activity, and little boxes can be veritable beehives. Activity and size are different aspects of the firm, and each must be treated separately.

The accounting statement that describes the firm's activity is the Income Statement, a simple form of which looks like this:

#### **Income Statement**

Sales	
- <u>Cost of Goods Sold</u>	
Gross Profit	
- Fixed Costs	
- <u>Depreciation</u>	
Earnings Before Interest and Taxes	
- <u>Interest</u>	
Earnings Before Taxes	
- <u>Taxes</u>	
Net Income	

It really is necessary to discuss each of the items in this statement. Each is important in making decisions and must be understood if there is any hope of

understanding the firm. While each item contains its own specific type of information, watch for the way that the accounts interact and create "next questions".

**Sales** - This is probably the most important line in all of the various accounting statements. Sure, the bottom line gets all the glory, but without a top line there can be no bottom line. Every firm has to sell some "thing", be it a product or a service. This is the only normal source of money the firm will have. If the firm cannot generate sales, it is unlikely that it will survive. The level of sales reflects how well the marketing folks are doing their job of identifying and exploiting market opportunities. Poor sales might indicate lousy marketing or a firm in real trouble since nobody wants its products; these are the obvious "next questions" relative to this line in the Income Statement.

**Cost of Goods Sold** - This is how much it costs to produce the "things" that the firm sells to generate money. This includes labor and raw materials, but not items like the rent for the machine shop or the wear and tear on the machines. As might be expected, this figure depends on exactly what "thing" is being made. The raw materials that go into a piece of jewelry, like gold and precious stones, are intrinsically more expensive than the raw material that goes into a computer chip, namely sand. Yet a specific computer chip might sell for more than a piece of jewelry. This really depends on what business the firm is in, and so industry averages can indicate whether the cost structure for the production process is in line with firms able to survive in this business. If the cost of goods sold varies significantly from what other firms are experiencing, that is the "next question".

**Gross Profit** - Gross profit is really an oxymoron<sup>1</sup>. As the result of a simple subtraction, there is nothing really magic about this value. It is useful to compare it to industry

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<sup>1</sup> An oxymoron is a combination of words that do not seem to belong together. There are a lot of oxymorons in everyday use, like "jumbo shrimp", "honest politician", "military intelligence", and "compassionate banker". In the case of "gross profit", there is absolutely nothing gross about profit, it is actually quite nice, thank you very much, and we want as much of it as possible.

averages to identify if this firm is behaving differently than its peers. This comparison is usually done on a relative rather than an absolute basis by use of a ratio, the gross profit margin

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Sales}}$$

The gross profit margin is one of those numbers that analysts can use to identify whether a firm's production process seems to be in line with similar firms. If a difference exists, it may be perfectly all right, but at least the "next question" can be asked.

**Fixed Costs** - This is the overhead like rent, heat, lights, and the phone. It does not include the wear and tear on the machines. The fixed costs measure how much support (in dollar terms) is given to the actual production process that cannot be assigned to a particular "thing". Sometimes the term "indirect costs" is used for this item. When compared to the industry, this value can indicate how lean and mean the management is in running the firm. High fixed costs could indicate sloppy management, but low fixed costs could foretell problems in the future. If a firm turns off the telephone today, it will lower the fixed costs for this period, but the firm may not be receiving the orders it needs to survive in the next period. These are the types of "next questions" that can be asked about fixed costs.

**Depreciation** - Depreciation is one of the most misunderstood concepts in all of accounting, at least for normal people who are not professional accountants. Depreciation is meant to reflect the wear and tear on the equipment used to produce the "things" the firm sells. But since the depreciation charges are controlled by the tax code, it all gets a little screwy, and the actual wear and tear on the machine may bear no relationship whatsoever to the depreciation charge.

Another confusing aspect is that depreciation is not a cash expense. No money ever leaves the firm; this charge is just deducted for tax purposes. The truth is that the money already left the firm when equipment was purchased. If the firm needs a drill press to make its “things”, it goes out and pays cash money to get the drill press. But the tax laws do not let the firm deduct this expense all at once, so a little bit appears periodically in a manner that is supposed to be representative of the wear and tear on the equipment that has already been paid for. The depreciation charge also serves to reduce the taxes a firm has to pay.

But wait! Does this mean that the Internal Revenue Service is giving a break to the firms that have to buy equipment to make “things”? Get real. The IRS is not about to let anyone get out of paying taxes due. The tax reduction caused by the depreciation deduction is actually an example of fairness on the part of the IRS. The money that had been used to purchase the equipment had already been taxed one time, otherwise it would not have been available to spend. As the machines wear out the value that they represent goes into the “things” that are produced, and eventually the machines can make no more “things”. The value of the machines, which were paid for with money that was already taxed, had gone into the “things” made. Since the “things” generated sales and sales are taxed, the money originally spent on the machines in effect would be taxed a second time. By allowing the deduction for depreciation, the money spent on the machines is taxed only once. This time, the IRS really is playing fair.

Another aspect of depreciation is that though it is a noncash expense it can be considered as a cash item. When depreciation is subtracted from the Income Statement, this amount of money does not actually leave the firm, it is merely set aside in a corner where the tax man cannot get at it. This is money that can be used by the firm for any purpose. It is sometimes said that the depreciation cash flow is like a savings account from which money will be available to buy a new machine when the old one wears out, but this concept is wrong. The only way depreciation cash flows can be generated is if the firm has already paid for the

machine; the depreciation charge is just returning money that has already been spent. Once the money becomes available, it can be used for anything.

A fairly easy way of understanding depreciation is to think of the firm as having a wallet in which it stores its cash. The cash in this wallet is the result of previous production activities and has been taxed, just like the cash in a person's wallet. When the firm needs to buy a machine, it takes cash out of the wallet. As that machine generates money for the firm, the money spent to buy the machine is periodically put back in the wallet, and the excess money is taxed. Anything remaining after taxes belongs to the owners of the firm, the stockholders, and can be paid to them directly or put into the firm's wallet for future use.

Since depreciation charges are driven by the tax code, it is hard to make any sweeping statements concerning this item, but there are some “next questions” that can be asked. If depreciation charges are relatively high compared to the industry, it could be due to new machinery which could be used to either update an old facility to industry standards or to position a firm to be an industry leader. Low depreciation charges could indicate obsolete machinery or a plant that has been paid off and is ready to make even more profit. The answers to these questions can have a direct bearing on the potential of a firm.

One approach to figuring out whether or not the depreciation charges are reasonable is to consider the age of the firm relative to the industry. If the firm is much older or much younger than the industry average, its relative depreciation charges should be different than the industry due to the structure of the tax code. One important aspect of depreciation that must always be remembered is that it represents cash that a firm can use. Firms with high depreciation charges will have more cash to spend than it may appear from looking at just the net income, the bottom line. This can be important.

Earnings Before Interest and Taxes (EBIT) - This is the figure that represents how much money the firm has made from the making and selling of “things”. This is actually a breaking point on the Income Statement. Items above EBIT relate to operations while items below relate to financing and taxes. As will be seen later, this split between operations and financing also occurs on the Balance Sheet. EBIT is sometimes called operating profit, but since the word “profit” has already been used (in gross profit), the usage of EBIT reduces confusion.

Since EBIT is one of those “large” concepts, it is best to look at it through large glasses as was done with gross profit. The operating profit margin is defined as

$$\text{Operating Profit Margin} = \frac{\text{Operating Profit (EBIT)}}{\text{Sales}}$$

This ratio indicates the percentage of each dollar generated by operations the firm gets to keep (before financing charges and taxes). When compared to the industry average, it can be seen whether or not a firm is operating as efficiently as its competitors. And, naturally, any differences could raise “next questions”.

Interest - When a firm wants to buy machines or buildings or anything else that can be used to make “things”, it has to have the cash money to do so. If the firm has a lot of cash, it can buy the stuff directly. But if the firm does not have the cash, it can often borrow cash from someone or some organization that has some excess cash. Now these lenders will naturally want their cash back eventually, and in the meantime they will charge the firm rent for using the cash. This rental fee for borrowed cash is called interest.

The reason that the interest is deducted on the Income Statement is because the tax code allows it. This is really another place where the tax code makes sense. The interest that is paid to the lender is taxed as income to the lender. If this

amount of money were taxed here, it would be double taxation. Unlike depreciation, though, this money actually leaves the firm since it is paid to the lender.

The size of the interest deduction can tell several things about a firm. If the charge is high in either absolute or relative terms, it could indicate that the firm is using a lot of debt or is paying a higher-than-industry-average price for the money it is borrowing. A lower-than-industry-average charge could indicate low debt usage or cheap debt. These are the “next questions”.

The way a firm utilizes borrowed money is actually quite tricky. It can be easily shown that a firm that uses no debt actually provides lower returns to the stockholders than a firm that borrows some of its money. But lenders typically have a senior claim on all earnings of the firm both during normal operations and during financial distress. The balancing act between not-enough-debt and too-much-debt is the subject of much academic discussion, most of which is inconclusive.

In truth, it is the School of Hard Knocks that has these answers. If a firm gets into trouble because of its borrowing practices, it used too much debt. Firms with conservative borrowing practices might have lower than possible returns, but they are not in trouble. About the only thing that can be said for sure is that a firm that does not borrow some money is missing some opportunities to improve stockholder returns. Since industry averages have the survivorship bias built into them, they are probably decent indicators of the proper amount of debt a typical firm within the industry should carry.

**Earnings Before Taxes** - This is really just a placeholder number, but it does represent the amount of money the IRS can take a bite out of. Though it might be tempting to try to keep as much money away from the tax man as possible, about the only way a firm can pay no taxes is to have no income. Remember that the firm has already diverted some money around the tax man by taking depreciation charges, so this figure really does not represent the amount of money in the firm at this point.

Taxes - The easiest way to tolerate the concept of taxes is to think of them as a license fee. This is the fee the firm pays for the license to operate in its country and state. Each political entity charges its own types of fees, and some might be better (cheaper) than others. Just remember that though death and taxes are inevitable, the taxes must be paid first, and sometimes afterwards.

Though there might not be much that can be done about taxes, there are some tricks the accountants can pull. This is really the only place where accountants can actually make money for the firm. Under the various sections of the tax code, it is possible to defer taxes until later periods. The firm still owes the money, but it gets to pay at a later time. This means the firm has the use of the money and may even be able to decrease borrowing. But the sword has two edges. Deferred taxes are a source of funds, but they **MUST** be paid eventually. If a firm has an unusually large deferred tax account, the “next question” is whether the accountants are better than average or if the tax man is waiting at the door.

Net Income - This is the famous “bottom line”. It is sometimes called net profit, but the word “profit” was used earlier. This is how much the firm gets to keep after all the shouting is done. This is the amount of money that the stockholders get to split among themselves. If there is preferred stock outstanding, those stockholders get first dibs on the money, but whatever is left over belongs to the common stockholders. This is part of the wealth that the firm is supposed to be maximizing for the stockholders, the part from a single accounting period. Since stockholders are assumed to be wealth maximizers and since money maximizing is a reasonable proxy for wealth maximizing, stockholders want this number to be as large as possible, consistent with continued operations that will yield future net income. Net income can be measured in several ways and from several different perspectives.

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Sales}}$$

The net profit margin measures how many pennies per dollar of sales actually make it past all expenses. This is a convenient measure to compare with other firms to try to identify the “next question”. The more money the better, but sometimes it may be awkward to make too much money. If a firm has a really high profit margin and is in a competitive industry, the odds are that the high margin will not be sustainable. Competitors will simply copy the good firm’s techniques, and competition will result in lower margins.

In a stable industry, everybody makes about the same amount of money, in relative terms. Economists talk about “normal profits” and lay out a bunch of theory, but it really comes down to the fact that if a firm is really good at what it does, everybody else can copy it. Firms that are consistently better than their competitors may or may not have higher margins. If the reason a firm is good is because it does a lot of research and development (R&D) and leads the industry, these extra expenses may actually translate into a lower profit margin if the marketing folks cannot get a better price for the new goods. And part of this depends on how fast the competition can copy. Firms that are copycats do not have the R&D burden and might make more money than the originator of the product idea. Consistently high net profit margins may not be sustainable.

$$\text{Earnings Per Share} = \frac{\text{Net Income}}{\text{Number of Shares}}$$

The earnings per share (EPS) is the amount of money each stockholder earns for each share held, but it is not necessarily the amount of money the stockholder gets. The EPS really and truly does belong to the stockholder, but the management of the firm gets to decide how much, if any, the stockholder actually receives. Earnings that are not paid to the stockholder are called retained earnings. The money the stockholder actually gets is called the dividend. If the firm has a lot of really great investment opportunities, it might be totally appropriate for the management of the firm to retain all earnings so that there will be even greater profits in the future.

The whole business of dividends is another of those areas in finance where the theoreticians have trouble. The amount of earnings depends on how much money the firm makes on its investments in plant and equipment which depends on how much money the firm has to invest which depends on how much money the firm retains from earnings....and so forth. It really is messy in places, and there are no clear answers about what type of dividend is best.

Firms tend to adopt a predictable dividend payment routine. Some firms pay predictable dividends regardless of future investment opportunities. Other firms take advantage of opportunities and accordingly have variable dividends or no dividends (they save up for the future). The decision about whether or not to buy stock in a certain company can be affected by the investor's need for current income. This is called "clientele theory" and implies that investors consider "when" they receive the money from their investments. A young professional making a good salary might not want current income since it would just be taxed away. A retired investor might need periodic cash payments to help with living expenses. Since the investors have preferences about when they receive their cash and since firms are responsible to these stockholders, it really is no surprise that dividend theory is muddy in places. The existence of the different types of clientele affects managers because the stockholders do get to vote on company business.

It must always be remembered that dividends can only be paid out of money that has been made during the current or some previous period (and then there might be legal restrictions on how much of the previous income can be paid out). Money for dividends must come from the sales of "things"; there is no other source. Any firm that cannot provide the market with "things" will not be able to provide the stockholder with dividends. It is always necessary to look beyond words to identify whether or not there is a basis for the earnings.

The Income Statement provides information that can be valuable to the manager. The main purpose of this part of the model of the firm is to give a picture of current

activities. This is only one aspect of the firm, so the Income Statement by itself cannot be considered sufficient to understanding a firm and its operations.

**The Balance Sheet**

The Income Statement is the document that tells “how things have been going lately”. While this type of question is undoubtedly important, there are others that must be considered. Another class of questions has to do with what the firm looked like during the last accounting period. For example, Little Joe’s Chicken Plucking Company (LJCP) might have reported a net income of \$100,000 last year. If the entire LJCP had total assets of \$100 then this would indeed be impressive performance, but if LJCP was an operation that cost \$100,000,000 to put together a mere hundred grand would be chicken feed, literally.

This is where the Balance Sheet comes in. The Balance Sheet is designed to provide a picture of the firm at a specific time, typically the end of the accounting period. While the Income Statement focuses on the "things" that go in and out of the box that is called the firm, the Balance Sheet examines how big the box is and what kinds of "things" are inside. The level of detail in a Balance Sheet can be minute, depending on how fine a picture of the firm is necessary for analysis. In its most basic form, the Balance Sheet looks something like this:

**Balance Sheet**

Cash and Equivalents	Accounts Payable/Accruals
Accounts Receivable	<u>Notes Payable</u>
<u>Inventory</u>	Current Liabilities
Current Assets	Long-Term Debt
Gross Fixed Assets	Preferred Stock
<u>- Accumulated Depreciation</u>	Common Stock
<u>Net Fixed Assets</u>	<u>Retained Earnings</u>
Total Assets	Total Liabilities and Owners' Equity

Though it may at first seem like a fairly simple observation, note that the Balance Sheet has a left side and a right side. The left side lists what the firm owns, and the right

side lists whom the firm owes. The left side tells about those assets that are used in the production of “things”, and the right side tells where the money came from to purchase those assets. The left side is related to the top half of the Income Statement (above EBIT), and the right half is related to the bottom half of the Income Statement (below EBIT). These are important distinctions to remember when reviewing a firm’s Balance Sheet and understanding how it interrelates with the Income Statement.

As with the Income Statement, there can be a lot of difference between the various accounts, even between firms in the same industry and of the same size. Once again, the industry averages can provide the basis for comparisons and lead to the “next question”. The accounts on the Balance Sheet can be described as follows:

Cash and Equivalents - This is the green folding stuff. There are only a few limited uses for cash in an operating firm, but they are very important uses. Cash is needed to make change for the customers; this is especially important in a retail environment. Cash is necessary to pay the bills when they come due. Cash is needed if the firm plans on purchasing an asset. And it is sometimes good to have a little cash around in case of emergencies (though if the firm has a good credit rating it should be able to get a loan if necessary).

Too much cash can be a sign of poor management. Cash is a sterile asset; it does not produce a single “thing”. Excess cash could indicate production opportunities that the management team has not exploited. Perhaps the worst thing about a cash heavy firm is the realization of to whom the cash belongs. For a firm to build up cash, it has had to retain earnings; this money belongs to the stockholders. If the firm has no use for the money, the money should be given to the stockholders since it is their money anyhow. Too much cash can also make the firm a takeover target.

Too little cash leads to obvious problems. A firm with too little cash is probably running a bit close to the financial winds. Without enough cash, a firm will quickly find itself in financial distress due to an inability to pay bills as they come due. Once

this happens business is interrupted, and wealth maximization becomes a dream rather than a goal.

Cash equivalents are typically short-term financial assets like Certificates of Deposit or Treasury securities. These investments should be of a very conservative nature since the firm will supposedly need the cash at some point in time. One reason a firm might build up cash and store it in high quality securities is that the firm is buying something big, like a new factory, and needs to have a big chunk of cash at a specific time. Rather than let the cash build up in a checking account where it gets dusty, short term securities at least earn a little interest (a very little interest).

The cash account is arguably the most important account for the survival of the firm. If mismanaged, all things come to an end. Cash is a very volatile asset; it will evaporate if it is not watched closely. This does not mean that outright theft will occur, but if there is a lot of cash lying around, the management can get sloppy. As long as money is available, unimportant little things will find a way to get done and use up cash in the process.

The cash account should be examined to find out if it is significantly different from industry averages both in absolute and relative terms. Different industries have different cash needs. Retail firms need more cash than wholesale firms since retail customers pay cash while wholesale customers often run credit accounts. The “next questions” about the cash account must be answered satisfactorily in order to understand the firm’s operations.

Accounts Receivable - This is the money owed the firm by customers who have taken “things” but not paid for them. For a firm with wholesale clients it is reasonable to have some level of receivables, but there is usually some industry practice that should serve to limit the amount. If it is the practice within the industry to give 30 days credit to customers, then the amount of receivables should be about 30 days

worth of sales. Industry averages should be reasonable indicators, and most firms should be close to this average.

The reason that receivables exist is to increase the top line. Suppose Little Joe's Chicken Plucking Company (LJCP) manufactures a line of high quality feather pillows, and everyone in LJCP's hometown buys these pillows. Once everyone in town has a dozen or so pillows each, there is no more local market. LJCP could open a store in another town, but this entails a lot of expense and trouble. LJCP could wholesale pillows to merchants in other towns for cash, but these merchants might not have the cash available. If LJCP allows these merchants to have the pillows on the condition that payment be made after the merchant has had time to sell the pillow, the period of time that the merchants have the pillows before they are sold must be accounted for somehow. An account receivable is really just a measure of how many of a firm's "things" are being held by other merchants.

If receivables are too high, it could mean that the firm is slow in collecting its bills or that there is some bad debt that has not yet been written off (and, yes, even a well-managed firm will have some bad debt). High receivables could also mean that the firm has offered extended credit terms and may be attracting additional customers. If receivables are too low the firm could be collecting rapidly or denying credit to potentially good customers. These are the "next questions".

Inventory - These are the "things", the stuff that the firm sells to make money or the raw materials that go into those "things". But since these are "things" that are sitting in a warehouse, they are not doing the firm much good. There needs to be enough inventory so that customers' demands can be met, but excess inventory only uses up money and can become obsolete. Sometimes a high level of inventory could indicate that a firm is able to attract customers and charge premium prices by always having what the customer wants in stock. The amount of inventory depends on the position a firm seeks in its market.

Inventory levels will vary in time even for a firm that is of constant size due to seasonal demand patterns for most goods. Inventory levels are also one of the measures of economic activity and may even play a role in determining when a recession will occur (if all firms have too much inventory, they slow production and lay off workers thus reducing the amount of purchasing power in the economy and reducing the number of people who can buy the existing inventory). For an individual firm, the inventory level should be considered not only relative to industry averages but also relative to the average the firm has held historically, adjusted for changes in the size of the firm. The “next questions” here deal with why the inventory is at the level it is relative to the competition and to previous operations.

**Current Assets** - As the total of the three previously described accounts, this is a measure of how much money the firm can get quickly. Cash is worth 100 cents on the dollar, but the receivables and Inventory might be worth less than face value. A useful comparison is the total of current assets with fixed assets. The current assets all deal with “things” in the process of being made sold while the fixed assets are the machines that make the “things”. Too many or too few current assets could indicate an operational or marketing problem for the firm. Industry averages again make good benchmarks.

**Gross Fixed Assets** - This is one of those numbers that only an accountant can love. This is the total price paid for all machinery and other production facilities (like buildings and land). This is obviously a messed up number since the historical value of a piece of land or a building may bear absolutely no resemblance to the going market price. As for the machines, they are often outdated by newer models soon after they are purchased. This does not mean the assets are worthless, it is just that the value of these assets is very hard to determine. This account quite probably understates the value of land and overstates the value of equipment. As for the value of buildings, it really depends on the how well the building has been maintained and the local real estate market.

This is one account where industry averages may be misleading. Since newer equipment is usually more expensive than equipment and real estate purchased a few years ago, newer firms will probably have higher relative levels of fixed assets than older firms. This does not mean the newer firms are better or more profitable than the older firms, it just means they are newer. The industry averages are only relevant if the firm being examined has a history similar to the industry. The averages are better when used with established firms than with new ones.

**Accumulated Depreciation** - This is another number for the accounting types. It is the sum total of all the depreciation charges ever taken on all the Income Statements for all the fixed assets currently in use (once a machine gets old and is sold or thrown away it is removed from the gross fixed asset account and its accumulated depreciation is removed from this account). Since this number is a victim of the various times assets were purchased and the various tax laws, it can be a bit iffy.

The important thing here is the relative size of the accumulated depreciation account to the gross fixed asset account. If the accumulated depreciation is relatively high, it could indicate the plant is old while a low amount could indicate a young plant. These comments are subject to the same caveats mentioned above relative to the quality of the assets. Industry averages are similarly only good when dealing with firms that have been around for a while.

**Net Fixed Assets** - This number is supposed to represent the value of all the physical factors of production, but as was noted in the two previous accounts there is a lot of leeway in this number ever representing a realistic value. For established firms, a comparison of the relative amount of current to net fixed assets can be appropriate.

**Total Assets** - Here is the total of all the “things” the firm has or has recently sold on credit, the cash in the till, and an adjusted value of the machines and buildings owned.

Supposedly, “this is what the firm is worth”, and that interpretation of this number is totally wrong.

The total worth of a firm depends on many things, and the asset side of the Balance Sheet is incomplete. There are a good number of assets that a firm controls that are not recorded on this accounting statement, nor anywhere else for that matter. These “invisible assets” may be worth much more than what is recorded on the Balance Sheet, and so it is important to consider these items and ask the appropriate “next questions” about the entire firm.

The most glaring omission from the Balance Sheet is actually the firm’s most valuable asset, its people. A firm without people is a building with machines and loading docks, none of which are doing anything. Even a totally automated factory needs somebody to punch the “Start” button, and even if that function is automated people are needed to design and market the products the robot factory can produce. Prior to the Civil War, the plantation owners in the South knew the value of a field worker and recorded it in their books, but since slavery is neither legal nor socially acceptable any more, the value of the workers is not recorded. People are still of vital importance to the firm, and the quality of the labor force and management team must be considered when analyzing a firm.

Another major hole in the Balance Sheet is its inability to record the worth of informal relationships like those that exist between long-term suppliers and customers. These informal contracts can be quite valuable to a firm because they represent sources for raw materials and outlets for goods in tight markets. This can be especially important if times get tough and a firm needs a little extra credit or has to delay payments a few days. Corporate friends can be just as valuable as personal friends, and this is a value beyond accounting measurements.

The firm’s reputation and trademarks are also conspicuously absent from the Balance Sheet (an account called trademarks means that the firm has purchased one from some other firm). A firm with the reputation as an industry leader will have a different value

than some tag-along operation (but remember that even a tag-along operation can make good money). The value of a major trademark like “Coca-Cola” or “McDonalds” can only be estimated, but it certainly has value in the marketplace, and this value is not shown on the Balance Sheet.

The asset side of the Balance Sheet is at best an incomplete representation of the firm. It is necessary to look beyond simple accounting numbers when trying to determine whether or not a firm is operating properly. Strict reliance on simple accounting values will invariably lead to incorrect decisions. But the Balance Sheet cannot be ignored because it allows the manager to identify those “next questions” which can help tell the real story. This may not sound easy, but being smart has never been a simple task.

The right side of the Balance Sheet presents a different picture of the firm, the picture of a debtor. While the assets on the left side of the Balance Sheet represent items of value, the accounts on the right side indicate money that is owed to someone. Though there might sometimes be trouble in identifying the true value of an asset, there is no difficulty in figuring out how much money is owed to someone. These contracts tend to be of a formal nature, and there is not a lot of room for creative interpretation.

Accounts Payable/Accruals - This is the amount of money owed for the factors used in producing the “things” the firm hopes to sell. Accounts payable are the amounts owed to outside suppliers of materials and services, the “things” that the firm has purchased from other firms and not yet paid for. An account payable for one firm is an account receivable for another firm. Suppliers who extend credit are doing the firm a favor by letting it have control of “things” that have not been paid for, and it is expected that the firm will honor the credit arrangement promptly. A firm that gets in arrears with its suppliers may find its sources of materials cut off; and then the lights go out.

An accrual is a special type of payable. Accruals are typically the monies owed to employees for their labor and to the government for the taxes that arise out of sales.

Since employees are only paid periodically after they have done the work, say every two weeks, there is a period when the employees are providing the firm with labor on credit. Every time the firm sells a “thing” it incurs a tax liability to the government, but it is only necessary to make tax payments periodically, say monthly. What sets accruals apart from other payables is the importance of making a timely payment. A firm may be able to delay the payment to a supplier of a raw material like steel or plastic, but if the employees are not paid on time there will be serious problems. And the government does not fool around when taxes are due. Accruals are really payables with an attitude.

A manager should examine the structure of a firm’s payables and accruals to determine whether or not they are consistent with the industry. Industry averages should be a fairly good indicator here unless the firm is either much more labor intensive or much more automated than the rest of the industry.

Notes Payable - Most firms find it necessary to borrow short-term money at certain times of the year. The best example of this is a retail store that is putting in its Christmas stock. The firm borrows money from the bank, buys “things”, sells “things”, and repays the bank. Such short-term loans are usually expected to be repaid within a year, but depending on the date when the Balance Sheet is prepared the note still might be outstanding and appear as a liability.

Though the industry averages contain information about how competitors use short-term debt, the firm-specific figures carry a lot of information. There are uses for short-term funds other than inventory (for example, some of the accounts receivable), but the amount of short-term debt really should not be too high. This money is very sensitive to market conditions and must be renewed continually. If such funds are ever used to purchase long-term assets, such assets might be lost if the loan cannot be renewed. Heavy reliance on short-term debt requires the “next question” “Why?”

Current Liabilities - Just as current assets indicates the amount of money the firm can get quickly, current liabilities indicates the amount of money the firm is obligated to pay within a relatively short period of time. The difference is that while the firm may not be able to realize the full value of the current assets, it does owe the full value of the current liabilities. Suppliers, employees, and the government expect to be paid fully and on time, and a firm dare not disappoint any of these parties without risking some rather severe consequences.

A good comparison to make is the amount of current assets relative to the amount of current liabilities. In fact, this comparison is so important it has its own ratio.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The size of a “good” current ratio depends a lot on the business a firm is in, so the industry average is a good benchmark. On an absolute scale, however, the current ratio should be greater than one because a firm always needs to pay off current liabilities at full price while current assets may not be worth 100 cents on the dollar. If the current ratio is low, there is a very big “next question”. It should be noted, though, that many large, reputable firms operate with current ratios less than one. These firms have sophisticated cash management systems and are able to match cash inflows with cash outflows very accurately. These firms also have good credit ratings, so lenders are more willing to give them money.

This comparison of current assets and current liabilities illustrates another structural feature of the Balance Sheet. Not only is the Balance Sheet split left-to-right, it is also split top-to-bottom. The accounts listed at the top are those that must be dealt with the most quickly and require the most day-to-day management. The accounts are said to be more “liquid” than the accounts further down the sheet. The current ratio is a liquidity ratio because it indicates the firm’s ability to cover its current liabilities.

The notion of liquidity is very important to a firm. For the firm to move into the next period, it must be able to pay its bills during this period. At one extreme it would seem like a good idea to have a lot of current assets, especially cash, so that any and all bills can be paid when they come due. But the current assets are in and of themselves nonproductive; they do not make a single “thing”. A firm needs to make “things”, and the production process requires machines and other fixed assets to do just that. The trick is to balance the amount of current and fixed assets. The balancing point is different in different industries, but any firm must learn to do this trick if it is to be successful. A firm that manages its liquidity in a manner significantly different than the industry either knows a new way to do the trick or does not know the trick at all. That is one of the important “next questions”.

Another aspect of the current accounts that must be recognized is that these are the accounts that require the most decisions. Decisions must be made every day about what products to make, how much credit to give, and how to pay the money owed from daily operations. A further difficulty with these accounts is that some of the least experienced employees deal with them. The cashiers at a store are often entry level employees, and yet they are the ones who handle the cash. A production line employee may be just learning the job, but he or she is responsible for turning raw inventory into the finished goods the firm hopes to sell. Effective management of current assets and liabilities is no small managerial feat.

The bottom half of the Balance Sheet deals with the long-term aspects of the firm. On the asset side, the plant and equipment are obviously in the right place. What a firm can do is to a large extent dictated by the equipment it has available. For example, a well-equipped machine shop may be able to work with either wood or metal, but it is unlikely such an establishment would be able to produce ladies’ lingerie. The fixed assets last a long time, too, so they do not require the day-to-day management of the current assets. After all, once a firm has a drill press bolted to a concrete floor, the odds are the drill press will be in the same place tomorrow or next week. Such a statement simply cannot be made about cash accounts.

The lower right portion of the Balance Sheet presents the long-term liabilities and sources of funds. This is where the money comes that is used to buy the big things, like factories and truck fleets. This is the big money which is typically raised by the sale of stocks and bonds.

Long-Term Debt - This is the long-term money that the firm rents. The money belongs to someone else who loans it to the firm for a specified period under specific conditions. Besides having to return the money to its true owners at some point in the future, the firm pays a periodic rental fee called interest. Since the firm will be using this money for a long time, the lenders require formal written contracts that are designed to protect the lenders, not the firm. If the firm does not like all the conditions, tough. The lenders can always find another firm that wants the money bad enough to sign the contract. The lenders really control the deal.

In the normal course of events, the only way lenders will not get their money back is if the firm suffers from financial distress. But since the lenders REALLY want their money back, the deal is set up so that even if the firm has trouble there usually will be enough money to pay back the lenders. One way the lenders make sure they get paid back is to make sure there are no other parties with a senior claim. The bondholders get to be first in line ahead of other long-term suppliers of capital. A second way to make sure there is enough money is to limit the number of bondholders or to make some bondholders take a junior, or subordinated, claim on the firm and its income. A third way that repayment is guaranteed is to restrict the operations of the firm. The bond contracts that govern the rental of long-term money may include any or all of these restrictions. Bondholders really want their money back, and managers must be aware of the conditions attached to this money.

The amount of debt a firm will have will depend on the structure of the industry, the way the managers want to set up the financing, and the willingness of the lenders to provide the funds. In a given industry, there is some average relative amount of long-term debt, say 30% of total liabilities and owners equity. Since this figure is for

firms that have survived, it is quite probably a bit conservative, but it does indicate the managerial and market attitude toward debt. While some firms will be above the average, it is unlikely that they will be significantly above the average because the lenders serve as a check against aggressive management. Lenders will not provide money to firms that might not repay it (except under very special circumstances).

Potential investors in either bonds or stocks take careful notice of the firm's long-term debt structure. If it is significantly higher than the industry average, the "next question" must be answered satisfactorily before any securities are purchased. This might limit a firm's ability to raise money in the future. If a firm gets into financial distress, the long-term debt holders will be there immediately to get their money out of the company. These investors have absolutely no sense of humor, and they cannot be toyed with. Firms that fail to appreciate the importance of debt management do not survive.

As might be expected, there is another side to the coin. Since debt is an unforgiving burden, it might seem like a good idea to avoid it altogether. This is not really smart business. Using debt properly actually makes more money for the stockholders. For example, if the firm borrows money at 10% per year and uses that money to make "things" that generate a return of 15% per year, once the debt holders are paid off the rest of the money goes to the stockholders. That is what leverage and borrowing are all about. Firms with no debt are making a mistake, just as firms with too much debt.

The bottom line of the Income Statement, net income, is the amount of money the firm generates during the accounting period above and beyond all costs and expenses. The next step is deciding to whom that money belongs.

Preferred Stock - The preferred stock account represents the amount of money that has been provided by individuals who are willing to give their money to the firm in return for "a piece of the action". But these investors are not quite as adventuresome as

the common stockholders. Preferred stock must be paid off before common stock; the preferred stockholders get head-of-the-line privileges over the common stockholders. Because preferred stock gets first crack at the net income, the amount paid to preferred stockholders is usually limited.

Preferred stock is really a hybrid between pure debt (bonds) and pure equity (common stock). Because of this it has specialized uses. It is important to notice the relationship between the amount of preferred stock relative to the amount of debt and the amount of equity. Many firms do not have any preferred stock, which is perfectly fine. Questions should arise if the preferred stock account is close to the same size or larger than either the long-term debt or the total common equity (common stock plus retained earnings). In extreme cases like that, there is something happening. A little preferred stock is fine, a lot is curious.

**Common Stock** - This account represents the amount paid for common stock when it was originally issued, if the stock was issued at par value. The actual amount that was paid to the firm will probably be the total of this and another account called Paid in Excess of Par (this account holds the amount paid above the stock's par value). For all practical purposes, the par value of a share of common stock is simply an accounting fiction. There is historical precedent for this structure, and sometimes the par value is used, so it is necessary to live with this somewhat awkward structure.

The common stockholders are the owners of the firm. Remember, the "firm" is really just a fiction designed so that the IRS has something to tax. Everything the firm does should be directed to providing benefits to the owners, the common stockholders. The common stockholders are sometimes called the "residual" owners since the only thing they get out of the deal is the money left over once everyone else has had a turn at the trough. But the common stockholders get ALL of the residual, and if the firm is having a very good year, it can be very good indeed for the common stockholders.

Retained Earnings - Even though the common stockholders “own” all of the net income that falls out the bottom of the Income Statement, this does not mean that they get all that money at once. The stockholders hire managers to run the firm, and if the managers can identify good future projects, they can and should retain some of the net income for those purposes. The amount of net income that is not paid out as dividends becomes retained earnings.

One commonly held belief is that the retained earnings is really a type of savings account for the common stockholders and that it can be tapped if necessary. This is not true. Not in the least. Earnings are retained to make investments, and any money kept as retained earnings is invested in plant and equipment, inventory, or some other asset account that is used for running the business. This is not a liquid account by any definition of the word; that is why it is the last account listed, on the bottom right side of the Balance Sheet.

The amount of retained earnings is probably more a reflection of the age of a firm than anything else. Most firms do not pay out all of the net income as dividends, so there are typically some retained earnings each period. Young firms will not have had time to build up this account. It is important to remember, though, that this account really is money that the common stockholders have invested in the firm, it is just that the managers made some of the investment decisions for the stockholders.

Total Liabilities and Owners' Equity - This is the total of the right hand side of the Balance Sheet, and it had better be the same as the total assets on the left (the Balance Sheet MUST balance). This is the total amount of money that investors of various types have trusted to the firm, and the firm is responsible for the good stewardship of all of it. Those investors who have loaned money must be paid on time, and those investors who own a piece of the action should get a fair return on their investment. If the managers of the firm cannot fulfill these basic requirements, the

investors will find some new managers or shut down entirely to prevent further degradation of their financial position.

There are many other types of accounting statement that can be created, and each one has its own specific use. The Income Statement and Balance Sheet are the most important, though, and any manager must be able to understand their basic concepts. It is probably most important to remember that each statement is at best an incomplete picture of the firm but that taken together the accounting statements can form a reasonable model of the firm. It must always be remembered, though, that no set of numbers can give an accurate representation of what a firm is or what a firm does; there are simply too many nonquantifiable variables.

### **Summary**

The accounting numbers can only tell so much, and then the manager must use common or uncommon sense to figure out how to run the firm. But even though the numbers do not tell everything, they tell a lot, and they tell the astute manager what questions to ask. Accounting statements are actually a model of the firm that provides the information needed to ask informed questions and make informed decisions. They are the signposts that show an manager where to focus attention. The detailed accounting statements might belong to the accountants, but managers need to know what the statements really mean.