

# Income Measurement & The Reporting Cycle

The Accounting Cycle

Christopher J. Skousen; Larry M. Walther



Larry M. Walther

# **Income Measurement & The Reporting Cycle**

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Income Measurement & The Reporting Cycle: The Accounting Cycle

1<sup>st</sup> edition

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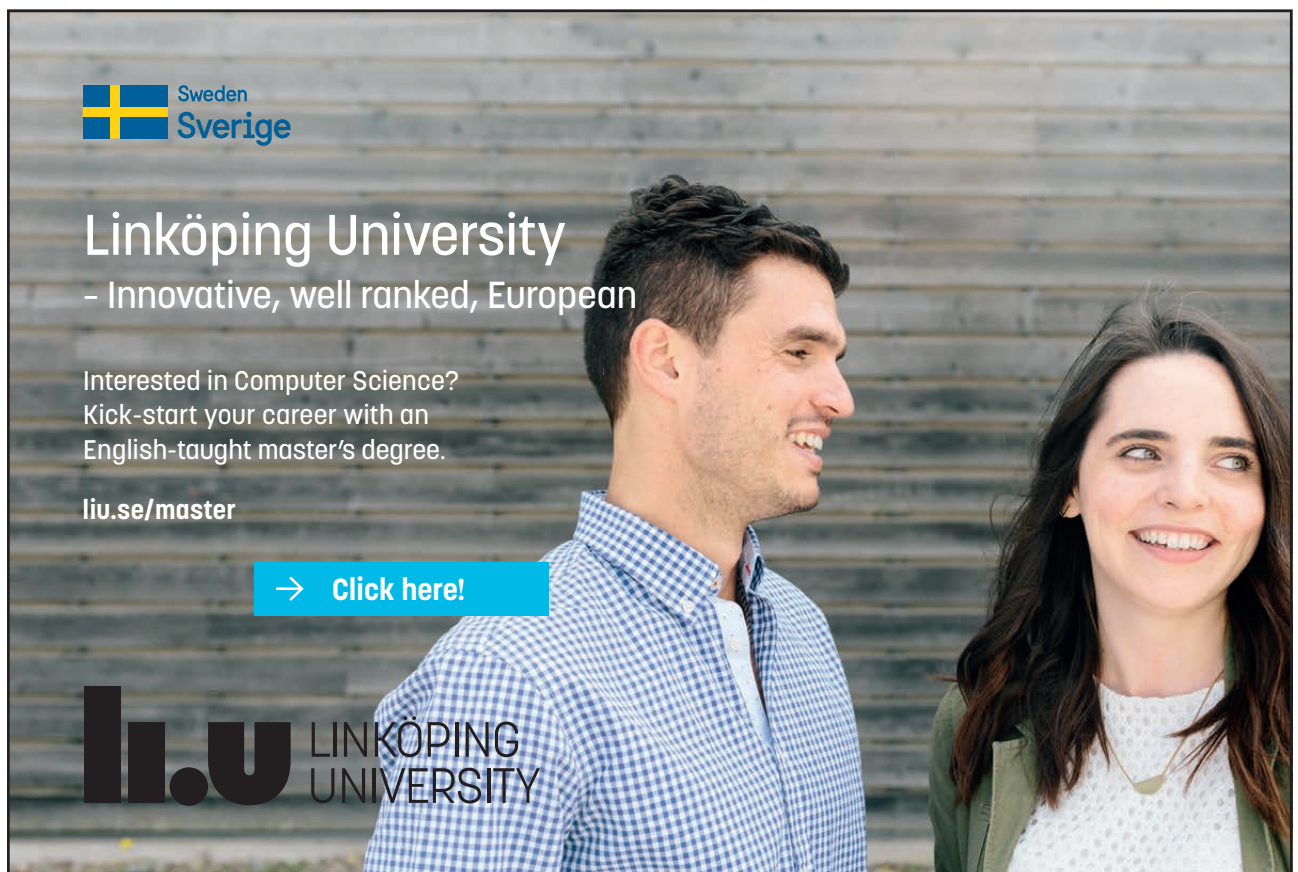
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# Part 1 Income Measurement

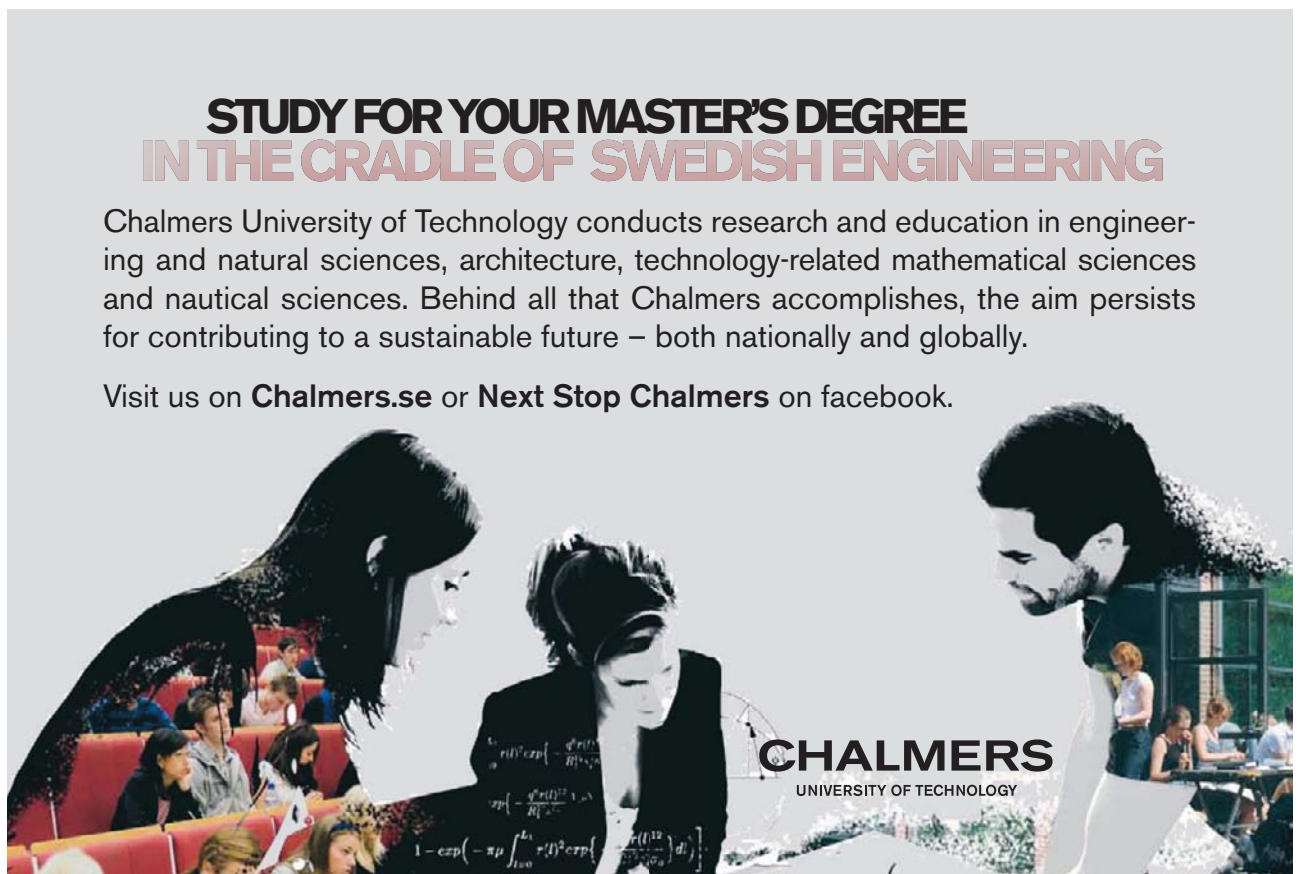
Your goals for this “Income Measurement” chapter are to learn about:

- “Measurement triggering” transactions and events.
- The periodicity assumption and its accounting implications.
- Basic elements of revenue recognition.
- Basic elements of expense recognition.
- The adjusting process and related entries.
- Accrual- versus cash-basis accounting.

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# 1 "Measurement Triggering" Transactions and Events

Economists often refer to income as a measure of "better-offness." In other words, economic income represents an increase in the command over goods and services. Such notions of income capture a business's operating successes, as well as good fortune from holding assets that may increase in value.

## 1.1 The Meaning of "Accounting" Income

Accounting does not attempt to measure all value changes (e.g., land is recorded at its purchase price and that historical cost amount is maintained in the balance sheet, even though market value may increase over time – this is called the "historical cost" principle). Whether and when accounting should measure changes in value has long been a source of debate among accountants. Many justify historical cost measurements because they are objective and verifiable. Others submit that market values, however imprecise, may be more relevant for decision-making purposes. Suffice it to say that this is a long-running debate, and specific accounting rules are mixed. For example, although land is measured at historical cost, investment securities are apt to be reported at market value. There are literally hundreds of specific accounting rules that establish measurement principles; the more you study accounting, the more you will learn about these rules and their underlying rationale.

For introductory purposes, it is necessary to simplify and generalize: thus, accounting (a) measurements tend to be based on historical cost determined by reference to an exchange transaction with another party (such as a purchase or sale) and (b) income represents "revenues" minus "expenses" as determined by reference to those "transactions or events."

## 1.2 More Income Terminology

At the risk of introducing too much too soon, the following definitions may prove helpful:

- Revenues – Inflows and enhancements from delivery of goods and services that constitute central ongoing operations
- Expenses – Outflows and obligations arising from the production of goods and services that constitute central ongoing operations
- Gains – Like revenues, but arising from peripheral transactions and events
- Losses – Like expenses, but arising from peripheral transactions and events

Thus, it may be more precisely said that income is equal to Revenues + Gains – Expenses – Losses. You should not worry too much about these details for now, but do take note that revenue is not synonymous with income. And, there is a subtle distinction between revenues and gains (and expenses and losses).

### 1.3 An Emphasis on Transactions and Events

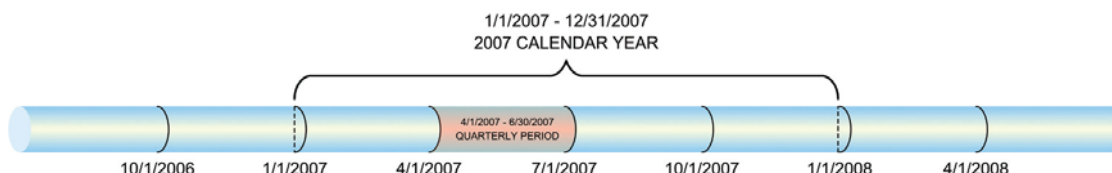
Although accounting income will typically focus on recording transactions and events that are exchange based, you should note that some items must be recorded even though there is not an identifiable exchange between the company and some external party. Can you think of any nonexchange events that logically should be recorded to prepare correct financial statements? How about the loss of an uninsured building from fire or storm? Clearly, the asset is gone, so it logically should be removed from the accounting records. This would be recorded as an immediate loss. Even more challenging for you may be to consider the journal entry: debit a loss (losses are increased with debits since they are like expenses), and credit the asset account (the asset is gone and is reduced with a credit).

# 2 The Periodicity Assumption

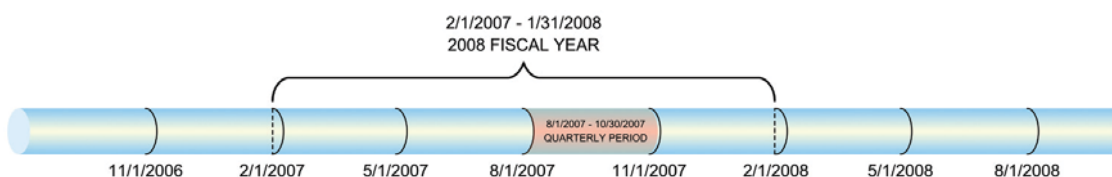
Business activity is fluid. Revenue and expense generating activities are in constant motion. Just because it is time to turn a page on a calendar does not mean that all business activity ceases. But, for purposes of measuring performance, it is necessary to “draw a line in the sand of time.” A periodicity assumption is made that business activity can be divided into measurement intervals, such as months, quarters, and years.

## 2.1 Accounting Implications

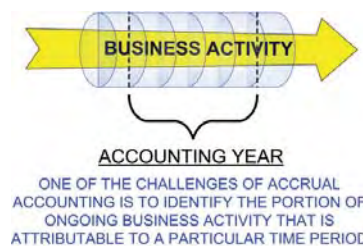
Accounting must divide the continuous business process, and produce periodic reports. An annual reporting period may follow the calendar year by running from January 1 through December 31. Annual periods are usually further divided into quarterly periods containing activity for three months.



In the alternative, a fiscal year may be adopted, running from any point of beginning to one year later. Fiscal years often attempt to follow natural business year cycles, such as in the retail business where a fiscal year may end on January 31 (allowing all of the Christmas rush, and corresponding returns, to cycle through). Note in the following illustration that the “2008 Fiscal Year” is so named because it ends in 2008:



You should also consider that internal reports may be prepared on even more frequent monthly intervals. As a general rule, the more narrowly defined a reporting period, the more challenging it becomes to capture and measure business activity. This results because continuous business activity must be divided and apportioned among periods; the more periods, the more likely that “ongoing” transactions must be allocated to more than one reporting period. Once a measurement period is adopted, the accountant’s task is to apply the various rules and procedures of generally accepted accounting principles (GAAP) to assign revenues and expenses to the reporting period. This process is called “accrual basis” accounting – accrue means to come about as a natural growth or increase – thus, accrual basis accounting is reflective of measuring revenues as earned and expenses as incurred.

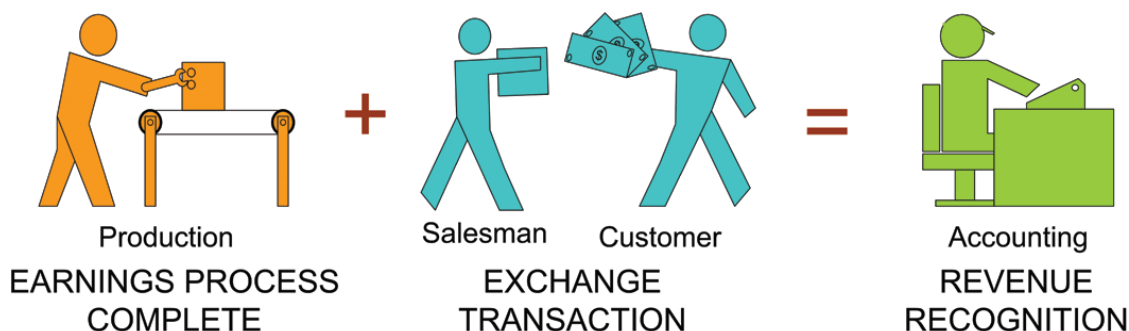


The importance of correctly assigning revenues and expenses to time periods is pivotal in the determination of income. It probably goes without saying that reported income is of great concern to investors and creditors, and its proper determination is crucial. These measurement issues can become highly complex. For example, if a software company sells a product for \$25,000 (in year 20×1), and agrees to provide updates at no cost to the customer for 20×2 and 20×3, then how much revenue is “earned” in 20×1, 20×2, and 20×3? Such questions are vexing, and they make accounting far more challenging than most realize. At this point, suffice it to say that we would need more information about the software company to answer their specific question. But, there are several basic rules about revenue and expense recognition that you should understand, and they will be introduced in the following sections.

Before moving away from the periodicity assumption, and its accounting implications, there is one important factor for you to note. If accounting did not require periodic measurement, and instead, took the view that we could report only at the end of a process, measurement would be easy. For example, if the software company were to report income for the three-year period 20×1 through 20×3, then revenue of \$25,000 would be easy to measure. It is the periodicity assumption that muddies the water. Why not just wait? Two reasons: first, you might wait a long time for activities to close and become measurable with certainty, and second, investors cannot wait long periods of time before learning how a business is doing. Timeliness of data is critical to its relevance for decision making. Therefore, procedures and assumptions are needed to produce timely data, and that is why the periodicity assumption is put in play.

# 3 Basic Elements of Revenue Recognition

To recognize an item is to record it into the accounting records. Revenue recognition normally occurs at the time services are rendered or when goods are sold and delivered to a customer. The basic conditions of revenue recognition are to look for both (a) an exchange transaction, and (b) the earnings process being complete.



For a manufactured product, should revenue be recognized when the item rolls off of the assembly line? The answer is no! Although production may be complete, the product has not been sold in an exchange transaction. Both conditions must be met. In the alternative, if a customer ordered a product that was to be produced, would revenue be recognized at the time of the order? Again, the answer is no! For revenue to be recognized, the product must be manufactured and delivered. Modern business transactions frequently involve complex terms, bundled items (e.g., a cell phone with a service contract), intangibles (e.g. a software user license), order routing (e.g., an online retailer may route an order to the manufacturer for direct shipment), and so forth. It is no wonder that many “accounting failures” involve misapplication of revenue recognition concepts. The USA Securities and Exchange Commission has additional guidance, noting that revenue recognition would normally be appropriate only when there is persuasive evidence of an arrangement, delivery has occurred (or services rendered), the seller’s price is fixed or determinable, and collectability is reasonably assured.

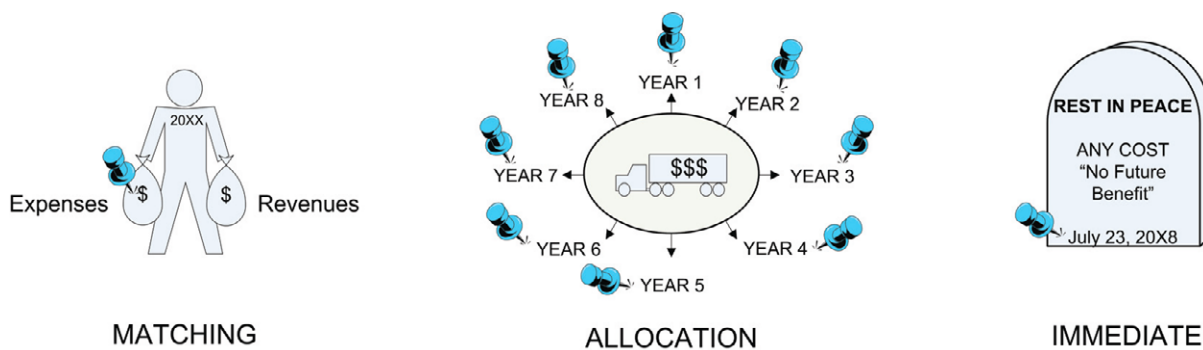
## 3.1 Payment and Revenue Recognition

It is important to note that receiving payment is not a criterion for initial revenue recognition. Revenues are recognized at the point of sale, whether that sale is for cash or a receivable. Recall the earlier definition of revenue (inflows and enhancements from delivery of goods and services), noting that it contemplates something more than simply reflecting cash receipts. Also recall the study of journal entries from Chapter 2; specifically, you learned to record revenues on account. Much business activity is conducted on credit, and severe misrepresentations of income could result if the focus was simply on cash receipts. To be sure, if collection of a sale was in doubt, allowances would be made in the accounting records. When you study the chapter on accounts receivable you will see how to deal with these issues.

# 4 Basic Elements of Expense Recognition

Expense recognition will typically follow one of three approaches, depending on the nature of the cost:

- **Associating cause and effect:** Many costs can be directly linked to the revenue they help produce. For example, a sales commission owed to an employee is directly based on the amount of a sale. Therefore, the commission expense should be recorded in the same accounting period as the sale. Likewise, the cost of inventory delivered to a customer should be expensed when the sale is recognized. This is what is meant by “associating cause and effect,” and is most often referred to as the matching principle.
- **Systematic and rational allocation:** In the absence of a clear link between a cost and revenue item, other expense recognition schemes must be employed. Some costs benefit many periods. Stated differently, these costs “expire” over time. For example, a truck may last many years; determining how much cost is attributable to a particular year is difficult. In such cases, accountants may use a systematic and rational allocation scheme to spread a portion of the total cost to each period of use (in the case of a truck, through a process known as depreciation).
- **Immediate recognition:** Last, some costs cannot be linked to any production of revenue, and do not benefit future periods either. These costs are recognized immediately. An example would be severance pay to a fired employee, which would be expensed when the employee is terminated.



## 4.1 Payment and Expense Recognition

It is important to note that making payment is not a criterion for initial expense recognition. Expenses are based on one of the three approaches just described, no matter when payment of the cost occurs. Recall the earlier definition of expense (outflows and obligations arising from the production of goods and services), noting that it contemplates something more than simply making a cash payment.

## 5 The Adjusting Process and Related Entries

In the previous chapter, you saw how tentative financial statements could be prepared directly from a trial balance. However, you were also cautioned about “adjustments that may be needed to prepare a truly correct and up-to-date set of financial statements.” This occurs because:

- **MULTI-PERIOD ITEMS:** Some revenue and expense items may relate to more than one accounting period, or
- **ACCRUED ITEMS:** Some revenue and expense items have been earned or incurred in a given period, but not yet entered into the accounts (commonly called accruals).

In other words, the ongoing business activity brings about changes in economic circumstance that have not been captured by a journal entry. In essence, time brings about change, and an adjusting process is needed to cause the accounts to appropriately reflect those changes. These adjustments typically occur at the end of each accounting period, and are akin to temporarily cutting off the flow through the business pipeline to take a measurement of what is in the pipeline – consistent with the revenue and expense recognition rules described in the preceding portion of this chapter.

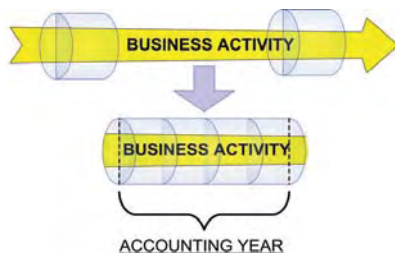
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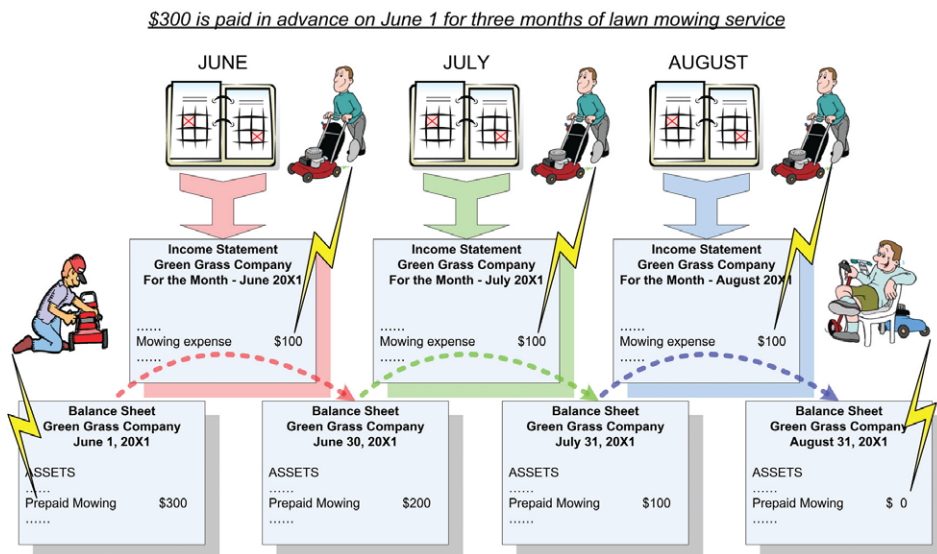
There is simply no way to catalog every potential adjustment that a business may need to make. What is required is firm understanding of a particular business’s operations, along with a good handle on accounting measurement principles. The following discussion will describe “typical adjustments” that one would likely encounter. You should strive to develop a conceptual understanding based on these examples. Your critical thinking skills will then allow you to extend these basic principles to most any situation you are apt to encounter. Specifically, the examples will relate to:

<p style="text-align: center;"><b>MULTI-PERIOD ITEMS</b></p> <p><b>PREPAID EXPENSES:</b></p> <ul style="list-style-type: none"> <li>Prepaid Insurance</li> <li>Prepaid Rent</li> <li>Supplies</li> </ul> <p><b>Depreciation</b></p> <p><b>Unearned Revenue</b></p>	<p style="text-align: center;"><b>ACCRUED ITEMS</b></p> <p><b>UNRECORDED EXPENSES:</b></p> <ul style="list-style-type: none"> <li>Accrued Salaries</li> <li>Accrued Interest</li> <li>Accrued Rent</li> </ul> <p><b>UNRECORDED REVENUES:</b></p> <ul style="list-style-type: none"> <li>Accrued Revenue</li> </ul>
--	--

It is quite common to pay for goods and services in advance. You have probably purchased insurance this way, perhaps prepaying for an annual or semi-annual policy. Or, rent on a building may be paid ahead of its intended use (e.g., most landlords require monthly rent to be paid at the beginning of each month). Another example of prepaid expense relates to supplies that are purchased and stored in advance of actually needing them.

At the time of purchase, such prepaid amounts represent future economic benefits that are acquired in exchange for cash payments. As such, the initial expenditure gives rise to an asset. As time passes, the asset is diminished. This means that adjustments are needed to reduce the asset account and transfer the consumption of the asset’s cost to an appropriate expense account. As a general representation of this process, assume that you prepay \$300 on June 1 for three months of lawn mowing service. As shown in the following illustration, this transaction initially gives rise to a \$300 asset on the June 1 balance sheet. As each month passes, \$100 is removed from the balance sheet account and transferred to expense (think: an asset is reduced and expense is increased, giving rise to lower income and equity – and leaving the balance sheet in balance):





Examine the journal entries for this cutting-edge illustration, and take note of the impact on the balance sheet account for Prepaid Mowing (as shown by the T-accounts at right):

June 1	Prepaid Mowing	300	
	Cash		300
	<i>To record prepayment of mowing service</i>		
June 30	Mowing Expense	100	
	Prepaid Mowing		100
	<i>To record mowing service for June</i>		
July 31	Mowing Expense	100	
	Prepaid Mowing		100
	<i>To record mowing service for July</i>		
August 31	Mowing Expense	100	
	Prepaid Mowing		100
	<i>To record mowing service for August</i>		

Prepaid Mowing	
300	
Prepaid Mowing	
300	100
Prepaid Mowing	
300	100
	100
Prepaid Mowing	
300	100
	100
	100


Now that you have a general sense of the process of accounting for prepaid items, let's take a closer look at some specific illustrations.

### 5.1 Illustration of Prepaid Insurance

Insurance policies are usually purchased in advance. You probably know this from your experience with automobile coverage. Cash is paid up front to cover a future period of protection. Assume a three-year insurance policy was purchased on January 1, 20×1, for \$9,000. The following entry would be needed to record the transaction on January 1:

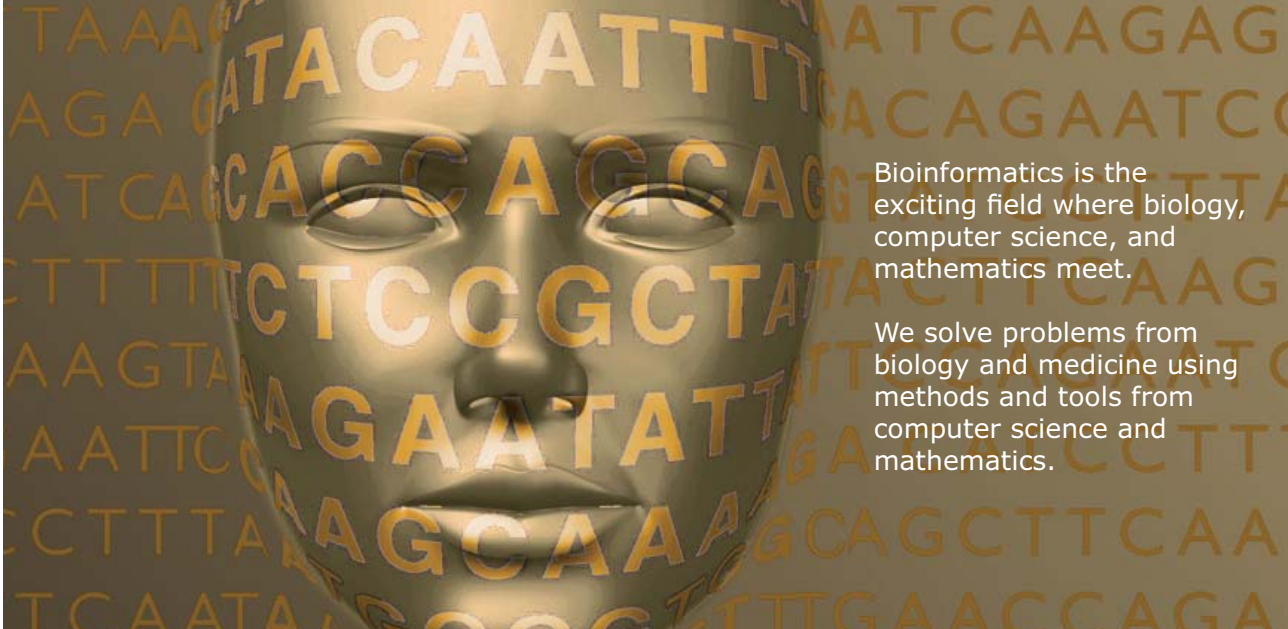
1-1-X1	Prepaid Insurance	9,000	
	Cash		9,000
	<i>Prepaid a three-year insurance policy for cash</i>		

By December 31, 20×1, \$3,000 of insurance coverage would have expired (one of three years, or 1/3 of the \$9,000). Therefore, an adjusting entry to record expense and reduce prepaid insurance would be needed by the end of the year:



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12-31-X1	Insurance Expense		3,000	
	Prepaid Insurance			3,000
	<i>To adjust prepaid insurance to reflect portion expired (\$9,000/3 = \$3,000)</i>			

As a result of the above entry and adjusting entry, the income statement for 20×1 would report insurance expense of \$3,000, and the balance sheet at the end of 20×1 would report prepaid insurance of \$6,000 (\$9,000 debit less \$3,000 credit). The remaining \$6,000 amount would be transferred to expense over the next two years by preparing similar adjusting entries at the end of 20×2 and 20×3.

## 5.2 Illustration of Prepaid Rent

Assume a two-month lease is entered and rent paid in advance on March 1, 20×1, for \$3,000. The following entry would be needed to record the transaction on March 1:

3-1-X1	Prepaid Rent		3,000	
	Cash			3,000
	<i>Prepaid a two-month lease</i>			

By March 31, 20×1, half of the rental period has lapsed. If financial statements were to be prepared at the end of March, an adjusting entry to record rent expense and reduce prepaid rent would be needed on that financial statement date:

3-31-X1	Rent Expense		1,500	
	Prepaid Rent			1,500
	<i>To adjust prepaid rent for portion lapsed (\$3,000/2 months = \$1,500)</i>			

As a result of the preceding entries, the income statement for March would report rent expense of \$1,500, and the balance sheet at March 31, would report prepaid rent of \$1,500 (\$3,000 debit less \$1,500 credit). The remaining \$1,500 prepaid amount would be expensed in April.

### 5.3 I’m a Bit Confused – Exactly When do I Adjust?

In the illustration for insurance, the adjustment was applied at the end of December, but the rent adjustment occurred at the end of March. What’s the difference? What was not stated in the first illustration was an assumption that financial statements were only being prepared at the end of the year, in which case the adjustments were only needed at that time. In the second illustration, it was explicitly stated that financial statements were to be prepared at the end of March, and that necessitated an end of March adjustment. There is a moral to this: adjustments should be made every time financial statements are prepared, and the goal of the adjustments is to correctly assign the appropriate amount of expense to the time period in question (leaving the remainder in a balance sheet account to carry over to the next time period(s)). Every situation will be somewhat unique, and careful analysis and thoughtful consideration must be brought to bear to determine the correct amount of adjustment.

To extend your understanding of this concept, return to the facts of the insurance illustration, but assume monthly financial statements were prepared. What adjusting entry would be needed each month? The answer is that every month would require an adjusting entry to remove (credit) an additional \$250 from prepaid insurance (\$9,000/36 months during the 3-year period = \$250 per month), and charge (i.e., debit) insurance expense. This would be done in lieu of the annual entry.

### 5.4 Illustration of Supplies

The initial purchase of supplies is recorded by debiting Supplies and crediting Cash. Supplies Expense should subsequently be debited and Supplies should be credited for the amount used. This results in supplies expense on the income statement being equal to the amount of supplies used, while the remaining balance of supplies on hand is reported as an asset on the balance sheet. The following illustrates the purchase of \$900 of supplies. Subsequently, \$700 of this amount is used, leaving \$200 of supplies on hand in the Supplies account:

Dec. 8	<b>Supplies</b>	900		
	<b>Cash</b>		900	
	<i>To record purchase of supplies</i>			
Dec. 31	<b>Supplies Expense</b>	700		
	<b>Supplies</b>		700	
	<i>Adjusting entry to reflect supplies used</i>			

<b>Supplies</b>	
900	

<b>Supplies Expense</b>	<b>Supplies</b>
700	900   700

The above example is probably not too difficult for you. So, let's dig a little deeper, and think about how these numbers would be produced. Obviously, the \$900 purchase of supplies would be traced to a specific transaction. In all likelihood, the supplies were placed in a designated supply room (like cabinet, closet, or chest). Perhaps the storage room has a person "in charge" to make sure that supplies are only issued for legitimate purposes to authorized personnel (a log book may be maintained). Each time someone withdraws supplies, a journal entry to record expense could be initiated; but, of course, this would be time consuming and costly (you might say that the record keeping cost would exceed the benefit). Instead, it is more likely that supplies accounting records will only be updated at the end of an accounting period.

To determine the amount of adjustment, one might "back in" to the calculation: Supplies in the storage room are physically counted at the end of the period (assumed to be \$200); since the account has a \$900 balance from the December 8 entry, one "backs in" to the \$700 adjustment on December 31. In other words, since \$900 of supplies was purchased, but only \$200 was left over, then \$700 must have been used.

The following year becomes slightly more challenging. If an additional \$1,000 of supplies is purchased during 20×2, and the ending balance at December 31, 20×2, is physically counted at \$300, then these entries would be needed:



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X-X-X2	Supplies	1,000	
	Cash		1,000
	<i>Purchased supplies for \$1,000</i>		
12-31-X2	Supplies Expense	900	
	Supplies		900
	<i>Adjusting entry to reflect supplies used</i>		

The \$1,000 amount is clear enough, but what about the \$900 of expense? You must take into account that you started 20×2 with a \$200 beginning balance (last year’s “leftovers”), purchased an additional \$1,000 (giving you total “available” for the period at \$1,200), and ended with only \$300 of supplies. Thus, \$900 was “used up” during the period:

Beginning balance	\$ 200
Plus: Purchases	<u>1,000</u>
Supplies available	\$1,200
Less: Ending supplies (per count)	<u>300</u>
Supplies used (i.e., expense)	<u>\$ 900</u>

### 5.5 Depreciation

Many assets have a very long life. Examples include buildings and equipment. These assets will provide productive benefits to a number of accounting periods. Accounting does not attempt to measure the change in “value” of these assets each period. Instead, a portion of their cost is simply allocated to each accounting period. This process is called depreciation. A subsequent chapter will cover depreciation methods in great detail. However, one simple approach is called the straight-line method. Under this method, an equal amount of asset cost is assigned to each year of service life. In other words, the cost of the asset is divided by the years of useful life, resulting in annual depreciation expense.

By way of example, if a \$150,000 truck with an 3-year life was purchased on January 1 of Year 1, depreciation expense would be \$50,000 ( $\$150,000/3 = \$50,000$ ) per year. \$50,000 of expense would be reported on the income statement each year for three years. Each year’s journal entry to record depreciation involves a debit to Depreciation Expense and a credit to Accumulated Depreciation (rather than crediting the asset account directly):

12-31-XX	Depreciation Expense	50,000	
	Accumulated Depreciation		50,000
	<i>To record annual depreciation expense</i>		

Accumulated depreciation is a very unique account. It is reported on the balance sheet as a contra asset. A contra account is an account that is subtracted from a related account. As a result, contra accounts have opposite debit/credit rules from those of the associated accounts. In other words, accumulated depreciation is increased with a credit, because the associated asset normally has a debit balance. This topic usually requires additional clarification. Let's see how this truck, the related accumulated depreciation, and depreciation expense would appear on the balance sheet and income statement for each year:

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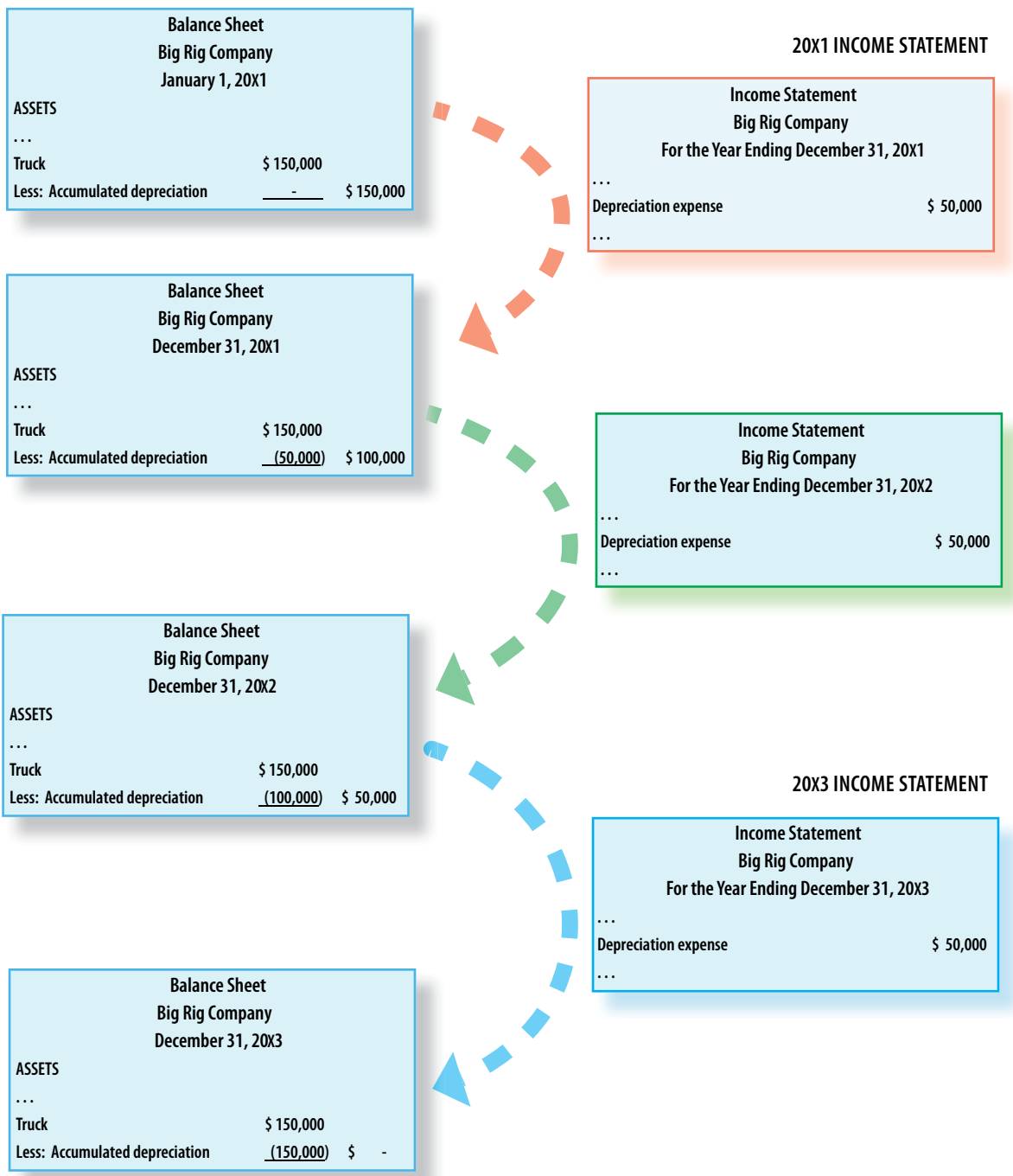
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As you can see on each year's balance sheet, the asset continues to be reported at its \$150,000 cost. However, it is also reduced each year by the ever-growing accumulated depreciation. The asset cost minus accumulated depreciation is known as the "net book value" of the asset. For example, at December 31, 20X2, the net book value of the truck is \$50,000, consisting of \$150,000 cost less \$100,000 of accumulated depreciation. By the end of the asset's life, its cost has been fully depreciated and its net book value has been reduced to zero. Customarily the asset could then be removed from the accounts, presuming it is then fully used up and retired.



### 5.6 Unearned Revenues

Often, a business will collect monies in advance of providing goods or services. For example, a magazine publisher may sell a multi-year subscription and collect the full payment at or near the beginning of the subscription period. Such payments received in advance are initially recorded as a debit to Cash and a credit to Unearned Revenue. Unearned revenue is reported as a liability, reflecting the company’s obligation to deliver product in the future. Remember, revenue cannot be recognized in the income statement until the earnings process is complete. As goods and services are delivered (e.g., the magazines are delivered), the Unearned Revenue is reduced (debited) and Revenue is increased (credited). The balance sheet at the end of an accounting period would include the remaining unearned revenue for those goods and services not yet delivered. The rationale for this approach is important to grasp; a liability exists to deliver goods and services in the future and should be reflected in the balance sheet. Equally important, revenue (on the income statement) should only be reflected as goods and services are actually delivered (in contrast to recognizing them solely at the time of payment). Unearned Revenue accounts may be found in the balance sheets of many businesses, including software companies (that license software use for multiple periods), funeral homes (that sell preneed funeral agreements), internet service providers (that sell multi-period access agreements), advertising agencies (that sell advertising services in advance), law firms (that require advance “retainer” payments), airlines (that sell tickets in advance), and so on. Following are illustrative entries for the accounting for unearned revenues:

4-1-X1	Cash		1,200	
	Unearned Revenue			1,200
	<i>Sold a one-year software license for \$1,200</i>			
12-31-X1	Unearned Revenue		900	
	Revenue			900
	<i>Year-end adjusting entry to reflect “earned” portion of software license (9 months at \$100 per month)</i>			

### 5.7 Accruals

Another type of adjusting journal entry pertains to the “accrual” of unrecorded expenses and revenues. Accruals are expenses and revenues that gradually accumulate throughout an accounting period. Accrued expenses relate to such things as salaries, interest, rent, utilities, and so forth. Accrued revenues might relate to such events as client services that are based on hours worked. Because of their importance, several examples follow.

### 5.8 Accrued Salaries

Few, if any, businesses have daily payroll. Typically, businesses will pay employees once or twice per month. Suppose a business has employees that collectively earn \$1,000 per day. The last payday occurred on December 26, as shown in the 20×8 calendar at right below. Employees worked three days the following week, but would not be paid for this time until January 9, 20×9. As of the end of the accounting period, the company owes employees \$3,000 (pertaining to December 29, 30, and 31). As a result, the adjusting entry to record the accrued payroll would appear as follows:

12-31-X8	Salaries Expense	3,000	
	Salaries Payable		3,000
	<i>To record accrued salaries</i>		

The above entry records the \$3,000 of expense for services rendered by the employees to the company during year 20×8, and establishes the liability for amounts that have accumulated and will be included in the next round of paychecks.

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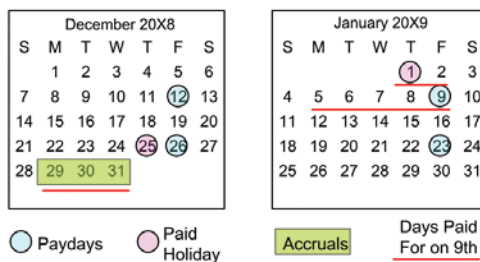
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Before moving on to the next topic, you should also consider the entry that will be needed on the next payday (January 9, 20×9). Suppose the total payroll on that date is \$10,000 (\$3,000 relating to the prior year (20×8) and another \$7,000 for an additional seven days in 20×9). The journal entry on the actual payday needs to reflect that the \$10,000 is partially for expense and partially to extinguish a previously established liability:

1-9-X9	Salaries Expense		7,000	
	Salaries Payable		3,000	
	Cash			10,000
	<i>To record payment of payroll relating to two separate accounting periods</i>			

You should carefully note that the above process assigns the correct amount of expense to each of the affected accounting years (regardless of the moment of payment). In other words, \$3,000 is expensed in 20×8 and \$7,000 is expensed in 20×9.

### 5.9 Accrued Interest

Most loans include charges for interest. Interest charges are usually based on agreed rates, such as 6% per year. The amount of interest therefore depends on the amount of the borrowing (“principal”), the interest rate (“rate”), and the length of the borrowing period (“time”). The total amount of interest on a loan is calculated as  $\text{Principal} \times \text{Rate} \times \text{Time}$ . For example, if \$100,000 is borrowed at 6% per year for 18 months, the total interest will amount to \$9,000 ( $\$100,000 \times 6\% \times 1.5 \text{ years}$ ). However, even if the interest is not payable until the end of the loan, it is still logical and appropriate to “accrue” the interest as time passes. This is necessary to assign the correct interest cost to each accounting period. Assume that our 18 month loan was taken out on July 1, 20×1, and was due on December 31, 20×2. The accounting for the loan on the various dates (assume a December year end, with an appropriate year-end adjusting entry for the accrued interest) would be as follows:

20X1			
7-1-X1	Cash	100,000	
	Loan Payable		100,000
	<i>To record the borrowing of \$100,000 at 6% per annum; principal and interest due on 12-31-X2</i>		
12-31-X1	Interest Expense	3,000	
	Interest Payable		3,000
	<i>To record accrued interest for 6 months (\$100,000 X 6% X 6/12)</i>		

20X2			
12-31-X2	Interest Expense	6,000	
	Interest Payable	3,000	
	Loan Payable	100,000	
	Cash		109,000
	<i>To record repayment of loan and interest (note that \$3,000 of the total interest was previously accrued)</i>		

In reviewing the above entries, it is important to note that the loan benefited 20×1 for six months, hence \$3,000 of the total interest was expensed in 20×1. The loan benefited 20×2 for twelve months, and twice as much interest expense was recorded in 20×2.

### 5.10 Accrued Rent

Accrued rent is the opposite of the prepaid rent discussed earlier. Recall that prepaid rent accounting related to rent that was paid in advance. In contrast, accrued rent relates to rent that has not yet been paid – but the utilization of the asset has already occurred. For example, assume that office space is leased, and the terms of the agreement stipulate that rent will be paid within 10 days after the end of each month at the rate of \$400 per month. During December of 20×1, Cabul Company occupied the lease space, and the appropriate adjusting entry for December follows:

12-31-X1	Rent Expense	400	
	Rent Payable		400
	<i>To record accrued rent</i>		

When the rent is paid on January 10, 20×2, this entry would be needed:

1-10-X2	<b>Rent Payable</b>	400	
	<b>Cash</b>		400
	<i>To record payment of accrued rent</i>		

### 5.11 Accrued Revenue

Many businesses provide services to clients under an understanding that they will be periodically billed for the hours (or other units) of service provided. For example, an accounting firm may track hours worked on various projects for their clients. These hours are likely accumulated and billed each month, with the periodic billing occurring in the month following the month in which the service is provided. As a result, money has been “earned” during a month, even though it won’t be billed until the following month. Accrual accounting concepts dictate that such revenues be recorded when “earned.” The following entry would be needed at the end of December to accrue revenue for services rendered to date (even though the physical billing of the client may not occur until January):

12-31-X2	<b>Accounts Receivable</b>	500	
	<b>Revenue</b>		500
	<i>Year-end adjusting entry to reflect “earned” revenues for services provided in December</i>		

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## 5.12 Recap of Adjustments

The preceding discussion of adjustments has been presented in great detail because it is imperative to grasp the underlying income measurement principles. Perhaps the single most important element of accounting judgment is to develop an appreciation for the correct measurement of revenues and expenses. These processes can be fairly straight-forward, as in the above illustrations. At other times, the measurements can grow very complex. A business process rarely starts and stops at the beginning and end of a month, quarter or year – yet the accounting process necessarily divides that flowing business process into measurement periods. And, the adjusting process is all about getting it right; to assign costs and revenues to each period in a proper fashion.

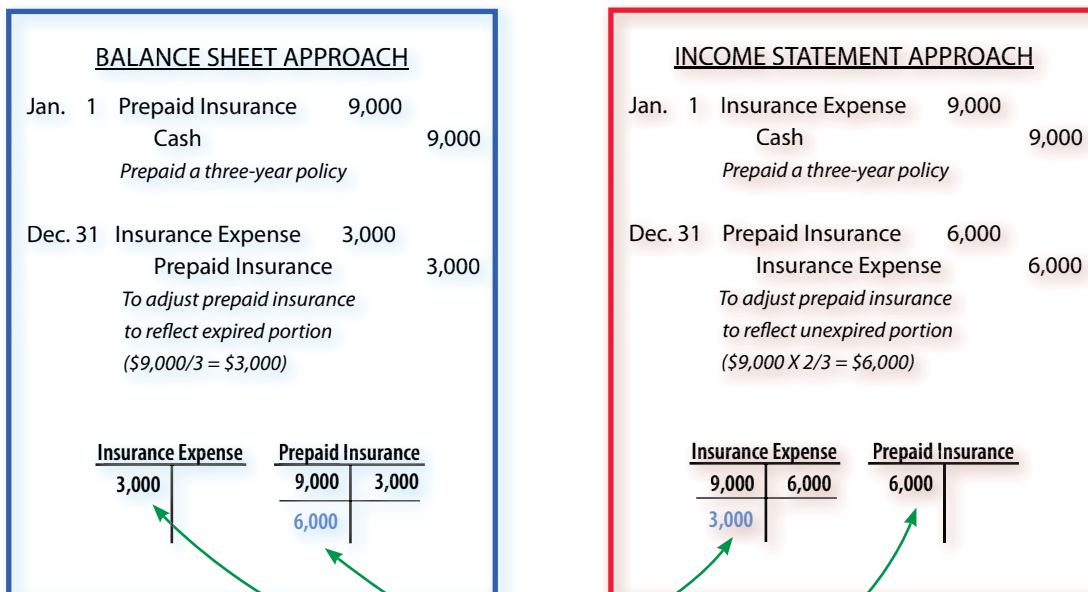
## 5.13 The Adjusted Trial Balance

Keep in mind that the trial balance introduced in the previous chapter was prepared before considering adjusting entries. Subsequent to the adjustment process, another trial balance can be prepared. This adjusted trial balance demonstrates the equality of debits and credits after recording adjusting entries. The adjusted trial balance would look the same as the trial balance, except that all accounts would be updated for the impact of each of the adjusting entries. Therefore, correct financial statements can be prepared directly from the adjusted trial balance. The next chapter looks at the adjusted trial balance in detail.

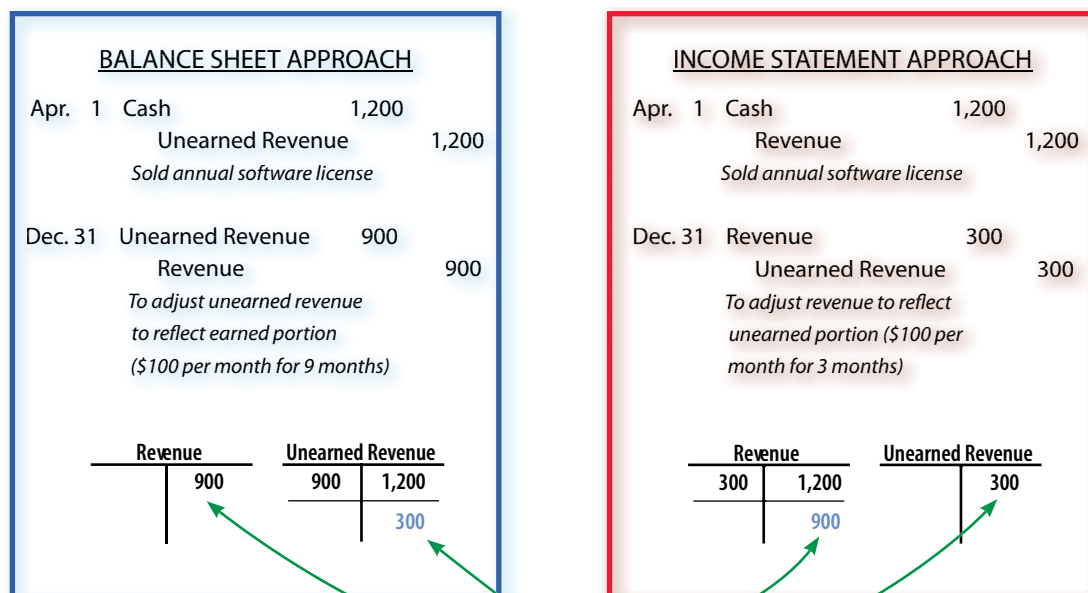
## 5.14 Alternative Procedures for Certain Adjustments

In accounting, as in life, there is often more than one approach to the same end result. The mechanics of accounting for prepaid expenses and unearned revenues can be carried out in several ways. No matter which method is employed, the resulting financial statements should be identical.

As an example, recall the illustration of accounting for prepaid insurance – Prepaid Insurance was debited and Cash was credited at the time of purchase. This is referred to as a “balance sheet approach” because the expenditure was initially recorded into a prepaid account on the balance sheet. However, an alternative approach is the “income statement approach.” With this approach, the Expense account is debited at the time of purchase. The appropriate end-of-period adjusting entry “establishes” the Prepaid Expense account with a debit for the amount relating to future periods. The offsetting credit reduces the expense account to an amount equal to the amount consumed during the period. Review the following comparison, noting in particular that Insurance Expense and Prepaid Insurance accounts have identical balances at December 31 under either approach:



Accounting for unearned revenue can also follow a balance sheet or income statement approach. The balance sheet approach for unearned revenue was presented earlier in this chapter, and is represented at left below. At right is the income statement approach for the same facts. Under the income statement approach, the initial receipt is recorded entirely to a Revenue account. Subsequent end-of-period adjusting entries reduce Revenue by the amount not yet earned and increase unearned revenue. As you can see, both approaches produce the same financial statements.



The balance sheet and income statement methods result in identical financial statements. Notice that the income statement approach does have an advantage if the entire prepaid item or unearned revenue is fully consumed or earned by the end of an accounting period. No adjusting entry is needed because the expense or revenue was fully recorded at the date of the original transaction.



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# 6 Accrual- Versus Cash-Basis Accounting

Generally accepted accounting principles (GAAP) require that a business use the “accrual basis.” Under this method, revenues and expenses are recognized as earned or incurred, utilizing the various principles introduced throughout this chapter.

An alternative method in use by some small businesses is the “cash basis.” The cash basis is not compliant with GAAP, but a small business that does not have a broad base of shareholders or creditors does not necessarily need to comply with GAAP. The cash basis is much simpler, but its financial statement results can be very misleading in the short run. Under this easy approach, revenue is recorded when cash is received (no matter when it is “earned”), and expenses are recognized when paid (no matter when “incurred”).

## 6.1 Modified Approaches

The cash and accrual techniques may be merged together to form a modified cash basis system. The modified cash basis results in revenue and expense recognition as cash is received and disbursed, with the exception of large cash outflows for long-lived assets (which are recorded as assets and depreciated over time). However, to repeat, proper income measurement and strict compliance with GAAP dictates use of the accrual basis; virtually all large companies use the accrual basis.

## 6.2 Illustration of Cash- Versus Accrual Basis of Accounting

Let’s look at an example for Ortiz Company. Ortiz provides web design services to a number of clients and has been using the cash basis of accounting. The following spreadsheet is used by Ortiz to keep up with the business’s cash receipts and payments. This type of spreadsheet is very common for a small business. The “checkbook” is in green, noting the date, party, check number, check amount, deposit amount, and resulting cash balance. The deposits are spread to the revenue column (shaded in tan) and the checks are spread to the appropriate expense columns (shaded in yellow). Note that total cash on hand increased by \$15,732.70 (from \$7,911.12 to \$23,643.82) during the month.

1	A	B	C	D	E	F	G	H	I	J	K	L
2	DATE	PARTY	REF #	CHECK	DEPOSIT	Balance	Revenue	Payroll	Supplies	Rent	Server	Admin
3	4-1-X5		Balance			\$ 7,911.12						
4	4-3-X5	Aldridge	1097	\$ 700.00		7,211.12		\$ 700.00				
5	4-4-X5	Rama	1098	555.13		6,655.99			\$ 555.13			
6	4-7-X5	Kane	Deposit		\$ 9,000.00	15,655.99	\$ 9,000.00					
7	4-12-X5	Lipe	1099	1,207.89		14,448.10						\$ 1,207.89
8	4-15-X5	Zhou	1100	1,416.22		13,031.88					\$ 1,416.22	
9	4-17-X5	Lobo	Deposit		3,545.23	16,577.11	3,545.23					
10	4-17-X5	Raghunan	1101	98.34		16,478.77			98.34			
11	4-19-X5	Forgione	1102	945.65		15,533.12						945.65
12	4-20-X5	Vermeer	Deposit		11,788.45	27,321.57	11,788.45					
13	4-23-X5	Aldridge	1103	700.00		26,621.57		700.00				
14	4-24-X5	Entwistle	Deposit		1,500.00	28,121.57	1,500.00					
15	4-26-X6	Fletham	1104	300.00		27,821.57				\$ 300.00		
16	4-29-X5	Mbagwu	1105	498.99		27,322.58					498.99	
17	4-30-X5	Jenkins	1106	3,678.76		23,643.82		3,678.76				
18				<u>\$10,100.98</u>			<u>\$25,833.68</u>	<u>\$ 5,078.76</u>	<u>\$ 653.47</u>	<u>\$ 300.00</u>	<u>\$ 1,915.21</u>	<u>\$ 2,153.54</u>
19												

The information from this spreadsheet was used to prepare the following “cash basis” income statement for April, 20x5. The increase in cash that is evident in the spreadsheet is mirrored as the “cash basis income”:

<b>ORTIZ CORPORATION</b> <b>Cash Basis Income Statement</b> <b>For the Month Ending April 30, 20X5</b>	
<b>Revenues</b>	
Services to customers	\$25,833.68
<b>Expenses</b>	
Payroll	\$5,078.76
Supplies	653.47
Rent	300.00
Server	1,915.21
Administrative	<u>2,153.54</u>
Total expenses	<u>10,100.98</u>
<b>Cash Basis Income</b>	<b><u>\$15,732.70</u></b>
Internal Use Only: Cash Basis -- Not prepared under generally accepted accounting principles!	


Ortiz has been approached by Mega Impressions, a much larger web-hosting and design firm. Mega has offered to buy Ortiz’s business for a price equal to “100 times” the business’s monthly net income, as determined under generally accepted accounting principles. An accounting firm has been retained to prepare Ortiz’s April income statement under the accrual basis. The following additional information is gathered in the process of preparing the GAAP-based income statement:

## Revenues:

- The \$9,000 deposit on April 7 was an advance payment for work to be performed equally during April, May, and June.
- The \$11,788.45 deposit on April 20 was collection of an account for which the work was performed during January and February.
- During April, services valued at \$2,000 were performed and billed, but not yet collected.

## Expenses:

- Payroll – The \$700 payment on April 3 related \$650 to the prior month. An additional \$350 is accrued by the end of April, but not paid.
- Supplies – The amount paid corresponded to the amount used.
- Rent – The amount paid corresponded to the amount used.
- Server – The \$1,416.22 payment on April 15 related \$500 to prior month's usage.
- Admin – An additional \$600 is accrued by the end of April, but not paid.



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The accounting firm prepared the following accrual basis income statement and corresponding calculations in support of amounts found in the statement

<b>ORTIZ CORPORATION</b> <b>Income Statement</b> <b>For the Month Ending April 30, 20X5</b>		
<b>Revenues</b>		
a.	Services to customers	\$10,045.23
<b>Expenses</b>		
b.	Payroll	\$4,778.76
	Supplies	653.47
	Rent	300.00
c.	Server	1,415.21
d.	Administrative	<u>2,753.54</u>
	Total expenses	<u>9,900.98</u>
	<b>Net Income</b>	<b><u>\$ 144.25</u></b>

<b>Cash Basis</b>	<b>\$25,833.68</b>	
<b>Less: Advance Payment</b>	<b>(9,000.00)</b>	
<b>Plus: Portion of Advance Payment Earned</b>	<b>3,000.00</b>	
<b>Less: Collection of Prior Receivable</b>	<b>(11,788.45)</b>	
<b>Plus: Unbilled Services</b>	<u>2,000.00</u>	
<b>Accrual Basis Revenues</b>	<b><u>\$10,045.23</u></b>	a.
<b>Cash Basis</b>	<b>\$ 5,078.76</b>	
<b>Less: Payment for Prior Month</b>	<b>(650.00)</b>	
<b>Plus: Accrued Payroll at End of Month</b>	<u>350.00</u>	
<b>Accrual Basis Payroll</b>	<b><u>\$ 4,778.76</u></b>	b.
<b>Cash Basis</b>	<b>\$ 1,915.21</b>	
<b>Less: Payment for Prior Month</b>	<u>(500.00)</u>	
<b>Accrual Basis Server Expense</b>	<b><u>\$ 1,415.21</u></b>	c.
<b>Cash Basis</b>	<b>\$ 2,153.54</b>	
<b>Plus: Accrued Administrative Costs</b>	<u>600.00</u>	
<b>Accrual Basis Administrative Costs</b>	<b><u>\$ 2,753.54</u></b>	d.

Although Ortiz was initially very interested in Mega’s offer, he was very disappointed with the resulting accrual-basis net income and decided to reject the deal. This illustration highlights the important differences between cash- and accrual-basis accounting. Cash basis statements are significantly influenced by the timing of receipts and payments, and can produce periodic statements that are not reflective of the actual economic activity of the business for the specific period in question. The accrual basis does a much better job of portraying the results of operations during each time period. This is why it is very important to grasp the revenue and expense recognition concepts discussed in this chapter, along with the related adjusting entries that may be needed at the end of each accounting period.

# Part 2 The Reporting Cycle

Your goals for this “reporting cycle” chapter are to learn about:

- Preparation of financial statements.
- The accounting cycle and closing process.
- The nature of “optional” reversing entries.
- Classified balance sheets.
- The importance of business liquidity and the concept of an operating cycle.

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# 7 Preparing Financial Statements

In the previous chapter, you learned all about adjustments that might be needed at the end of each accounting period. These adjustments were necessary to bring a company's books and records current in anticipation of calculating and reporting its income and financial position. However, Chapter 3 did not illustrate how those adjustments would be used to actually prepare the financial statements. This chapter will begin with that task.

## 7.1 An Illustration

To illustrate the process for preparing financial statements, let's look at some facts for England Tours Company. England began operation early in 20×3. In the process of preparing its financial statements for the year ending December 31, 20×3, England determined that the following adjusting entries were needed. The numbers are all “assumed” and you should not be concerned about that. But, if you are unclear as to why any one of these entries might be needed, you should definitely review the detailed discussion of adjusting entries from the previous chapter.

12-31-X3	<b>Depreciation Expense</b>	5,000	
	<b>Accumulated Depreciation</b>		5,000
	<i>To record annual depreciation expense for equipment with a 9-year life (\$45,000/9)</i>		
12-31-X3	<b>Salaries Expense</b>	2,000	
	<b>Salaries Payable</b>		2,000
	<i>To record accrued salaries due to employees at the end of December</i>		
12-31-X3	<b>Interest Expense</b>	1,200	
	<b>Interest Payable</b>		1,200
	<i>To record accrued interest on note payable (\$20,000 X 6%)</i>		
12-31-X3	<b>Unearned Revenue</b>	1,800	
	<b>Revenue</b>		1,800
	<i>Year-end adjusting entry to reflect “earned” portion of tours sold in advance</i>		

Below is a graphic showing England's trial balance before the above adjusting entries, and after the adjusting entries. If England had prepared its financial statements based only on the unadjusted trial balance, the reported information would be incomplete and incorrect. Instead, it is necessary to utilize the adjusted trial balance because it has been updated to reflect the year-end adjusting entries.

ENGLAND TOURS COMPANY Trial Balance December 31, 20X3		
	Debits	Credits
Cash	\$15,500	
Accounts receivable	4,500	
Equipment	45,000	
Accounts payable		\$ 4,000
Unearned revenue		3,000
Notes payable		20,000
Capital stock		30,000
Revenue		31,000
Salaries expense	15,000	
Advertising expense	5,000	
Fuel expense	2,000	
Dividends	1,000	
	<u>\$88,000</u>	<u>\$88,000</u>

12-31-X3	Depreciation Expense	5,000	
	Accumulated Depreciation		5,000
	<i>To record annual depreciation expense for equipment with a 9-year life (\$45,000/9)</i>		
12-31-X3	Salaries Expense	2,000	
	Salaries Payable		2,000
	<i>To record accrued salaries due to employees at the end of December</i>		
12-31-X3	Interest Expense	1,200	
	Interest Payable		1,200
	<i>To record accrued interest on note payable (\$20,000 X 6%)</i>		
12-31-X3	Unearned Revenue	1,800	
	Revenue		1,800
	<i>Year-end adjusting entry to reflect "earned" portion of tours sold in advance</i>		

RECORD ADJUSTING ENTRIES IN JOURNAL

POST ENTRIES TO THE LEDGER

PREPARE ADJUSTED TRIAL BALANCE FROM LEDGER

ENGLAND TOURS COMPANY Adjusted Trial Balance December 31, 20X3		
	Debits	Credits
Cash	\$15,500	
Accounts receivable	4,500	
Equipment	45,000	
Accumulated depreciation		\$ 5,000
Accounts payable		4,000
Unearned revenue		1,200
Salaries payable		2,000
Interest payable		1,200
Notes payable		20,000
Capital stock		30,000
Revenue		32,800
Salaries expense	17,000	
Advertising expense	5,000	
Fuel expense	2,000	
Depreciation expense	5,000	
Interest expense	1,200	
Dividends	1,000	
	<u>\$96,200</u>	<u>\$96,200</u>

ACCOUNT: Cash					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 15,500	
ACCOUNT: Accounts Receivable					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 4,500	
ACCOUNT: Equipment					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 45,000	
ACCOUNT: Accumulated Depreciation					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Adjusting entry	\$ 5,000		\$ 5,000	
ACCOUNT: Accounts Payable					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 4,000	
ACCOUNT: Unearned Revenue					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 3,000	
Dec. 31, 20X3	Adjusting entry	\$ 1,800		\$ 1,200	
ACCOUNT: Salaries Payable					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Adjusting entry	\$ 2,000		\$ 2,000	
ACCOUNT: Interest Payable					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Adjusting entry	\$ 1,200		\$ 1,200	
ACCOUNT: Notes Payable					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 20,000	
ACCOUNT: Capital Stock					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 30,000	
ACCOUNT: Revenue					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 31,000	
Dec. 31, 20X3	Adjusting entry		\$ 1,800	\$ 32,800	
ACCOUNT: Salaries Expense					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 15,000	
Dec. 31, 20X3	Adjusting entry	\$ 2,000		\$ 17,000	
ACCOUNT: Advertising Expense					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 5,000	
ACCOUNT: Fuel Expense					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance			\$ 2,000	
ACCOUNT: Depreciation Expense					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Adjusting entry	\$ 5,000		\$ 5,000	
ACCOUNT: Interest Expense					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Adjusting entry	\$ 1,200		\$ 1,200	
ACCOUNT: Dividends					
Date	Description	Debit	Credit	Balance	
Dec. 31, 20X3	Balance	\$ 1,000		\$ 1,000	

## 7.2 Considering the Actual Process for Adjustments

Most of the time, a company will prepare its trial balance, analyze the trial balance for potential adjustments, and develop a list of necessary adjusting entries. Knowing what to adjust is not necessarily intuitive. It usually requires hands-on review by someone who is very knowledgeable about the business and accounting. As a practical matter, a company should not allow anyone and everyone to have access to the accounting system for purposes of entering year-end adjustments; too many errors and rogue entries will appear. Instead, a company will usually have a defined process where proposed entries are documented on a form (sometimes called a journal voucher). These forms are submitted to a chief accountant/controller who reviews and approves such proposed entries. The approved journal vouchers then serve as supporting documents to authorize data entry into the accounting system. The adjusting entries are entered in the journal, posted to the appropriate ledger accounts, and then the adjusted trial balance can be prepared from the up-to-date ledger.

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### 7.3 Financial Statements

The adjusted trial balance is ordinarily sufficient to facilitate preparation of financial statements. You should take time to trace the amounts from England's adjusted trial balance to the financial statements that follow:

ENGLAND TOURS COMPANY Income Statement For the Year Ending December 31, 20X3		
<b>Revenues</b>		
Tour services		\$32,800
<b>Expenses</b>		
Salaries	\$17,000	
Advertising	5,000	
Fuel	2,000	
Depreciation	5,000	
Interest	1,200	
		<u>30,200</u>
<b>Net income</b>		<u>\$ 2,600</u>

ENGLAND TOURS COMPANY Statement of Retained Earnings For the Year Ending December 31, 20X3	
Beginning retained earnings	\$ -
Plus: Net income	<u>2,600</u>
	\$2,600
Less: Dividends	<u>1,000</u>
Ending retained earnings	<u>\$1,600</u>

ENGLAND TOURS COMPANY Balance Sheet December 31, 20X3	
<b>Assets</b>	
Cash	\$15,500
Accounts receivable	4,500
Equipment	\$45,000
Less: Accumulated depr.	<u>(5,000)</u>
Total assets	<u>\$60,000</u>
<b>Liabilities</b>	
Accounts payable	\$ 4,000
Salaries payable	2,000
Interest payable	1,200
Notes payable	20,000
Unearned revenue	<u>1,200</u>
Total liabilities	\$28,400
<b>Stockholders' equity</b>	
Capital stock	\$30,000
Retained earnings	<u>1,600</u>
Total stockholders' equity	<u>31,600</u>
Total liabilities and equity	<u>\$60,000</u>

### 7.4 Computerization

The financial statement preparation process is mostly mechanical, and easily automated. Once the adjusting entries have been prepared and entered, every accounting software package will race through the steps of processing the data to produce the financial statements. As such, you may be inclined to discount your need to understand how to move amounts from an adjusted trial balance into a set of financial statements. In some respects that is true, just as it is true that you do not need to know how to add and subtract if you own a calculator. Of course, you probably see the value of understanding addition and subtraction even if you use a calculator. In the same light, please consider that understanding the flow of transactions into financial statements is an essential foundation for furthering your knowledge of accounting.

## 7.5 A Worksheet Approach

Occasionally, one may desire to prepare financial statements that take into account necessary adjustments, but without actually updating journals and ledgers. Why? A manager may desire monthly financial reports even though the business may not formally prepare and book adjusting entries every month. A worksheet approach can be used for this purpose. Or, an auditor may use a worksheet to prepare financial statements that take into account recommended adjustments, before proposing that the actual journal/ ledger be updated. The accounting department could be requested to prepare financial statements at any point in time; rather than break routine and book entries outside of the normal cycle, they might instead simply prepare financial statements via an informal worksheet.

The following illustrates a typical worksheet. The data and adjustments correspond to information previously presented for England. The first set of columns is the unadjusted trial balance. The next set of columns reveals the end-of-period adjustments. The information in the first two sets of columns is combined to generate the adjusted trial balance columns. The last three pairs of columns in the worksheet are the appropriate financial statement extensions of amounts from the adjusted trial balance columns. For example, Cash is an asset account with a debit balance, and is “appropriately” extended to the debit column of the balance sheet pair of columns. Likewise, Service Revenue is an income statement account with a credit balance; notice that it is extended to the income statement credit column. This extension of accounts should occur for every item in the adjusted trial balance. Look at the worksheet, and then consider the additional comments that follow.

After all adjusted trial balance amounts have been extended to the appropriate financial statement columns; the income statement columns are subtotaled. If credits exceed debits, the company has more revenues than expenses (e.g., \$32,800 vs. \$30,200 = \$2,600 net income)). On the other hand, an excess of debits over credits would represent a net loss. To complete the worksheet, the amount of net income or loss is entered in the lower portion of the income statement columns in a manner which causes total debits to equal total credits. England Tours had a \$2,600 net income, and a debit is needed to balance the income statement pair. An offsetting credit is entered in the lower portion of the retained earnings columns. This credit represents income for the year that must be added to retained earnings to complete the preparation of a formal statement of retained earnings. Within the retained earnings columns, the subtotal indicates that ending retained earnings is \$1,600 (noted by the excess of credits (\$2,600) over debits (\$1,000)); this amount is debited in the retained earnings columns and credited in the balance sheet columns – thereby bringing both sets of columns into final balance.

ENGLAND TOURS COMPANY WORKSHEET TO PREPARE FINANCIAL STATEMENTS DECEMBER 31, 20X3												
	TRIAL BALANCE		ADJUSTMENTS		ADJUSTED TRIAL BALANCE		INCOME STATEMENT		STATEMENT OF RETAINED EARNINGS		BALANCE SHEET	
	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
Cash	\$ 15,500				\$ 15,500						\$ 15,500	
Accounts receivable	4,500				4,500						4,500	
Equipment	45,000				45,000						45,000	
Accounts payable		\$ 4,000				\$ 4,000						\$ 4,000
Unearned revenue		3,000	\$ 1,800			1,200						1,200
Notes payable		20,000				20,000						20,000
Capital stock		30,000				30,000						30,000
Service revenue		31,000		\$ 1,800		32,800	\$ 32,800					
Salaries expense	15,000		2,000		17,000		\$ 17,000					
Advertising expense	5,000				5,000		5,000					
Fuel expense	2,000				2,000		2,000					
Dividends	1,000								\$ 1,000			
Depreciation expense			5,000		5,000		5,000					
Accumulated Depreciation				5,000		5,000						5,000
Salaries payable				2,000		2,000						2,000
Interest expense			1,200		1,200		1,200					
Interest payable				1,200		1,200						1,200
	\$ 88,000	\$ 88,000	\$ 10,000	\$ 10,000	\$ 96,200	\$ 96,200	\$ 30,200	\$ 32,800			\$ 65,000	\$ 65,000
Net income							2,600			2,600		
Retained earnings									1,000			
									1,600			1,600
									\$ 2,600			\$ 2,600
												\$ 65,000
												\$ 65,000

## 7.6 An Additional Illustration

The illustration shown assumed England Tours was formed early in 20×3. As such, there was no beginning retained earnings balance. You may wonder how the worksheet would be influenced by a beginning retained earnings balance. If you were to look at England's 20×4 worksheet, the \$1,600 ending retained earnings from 20×3 would carry over to become the beginning balance for 20×4.



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# 8 The Accounting Cycle and Closing Process

Reflecting on the accounting processes thus far described reveals the following typical steps:

- transactions are recorded in the journal
- journal entries are posted to appropriate ledger accounts
- a trial balance is constructed
- adjusting entries are prepared and posted
- an adjusted trial balance is prepared
- formal financial statements are produced (perhaps with the assistance of a worksheet)

It appears that we have completed the accounting cycle – capturing transaction and event data and moving it through an orderly process that results in the production of useful financial statements. And, importantly, we are left with substantial records that document each transaction (the journal) and each account's activity (the ledger). It is no wonder that the basic elements of this accounting methodology have endured for hundreds of years.

## 8.1 The Closing Process

There remains one final step. It is known as the closing process. The purpose of the closing process is two-fold:

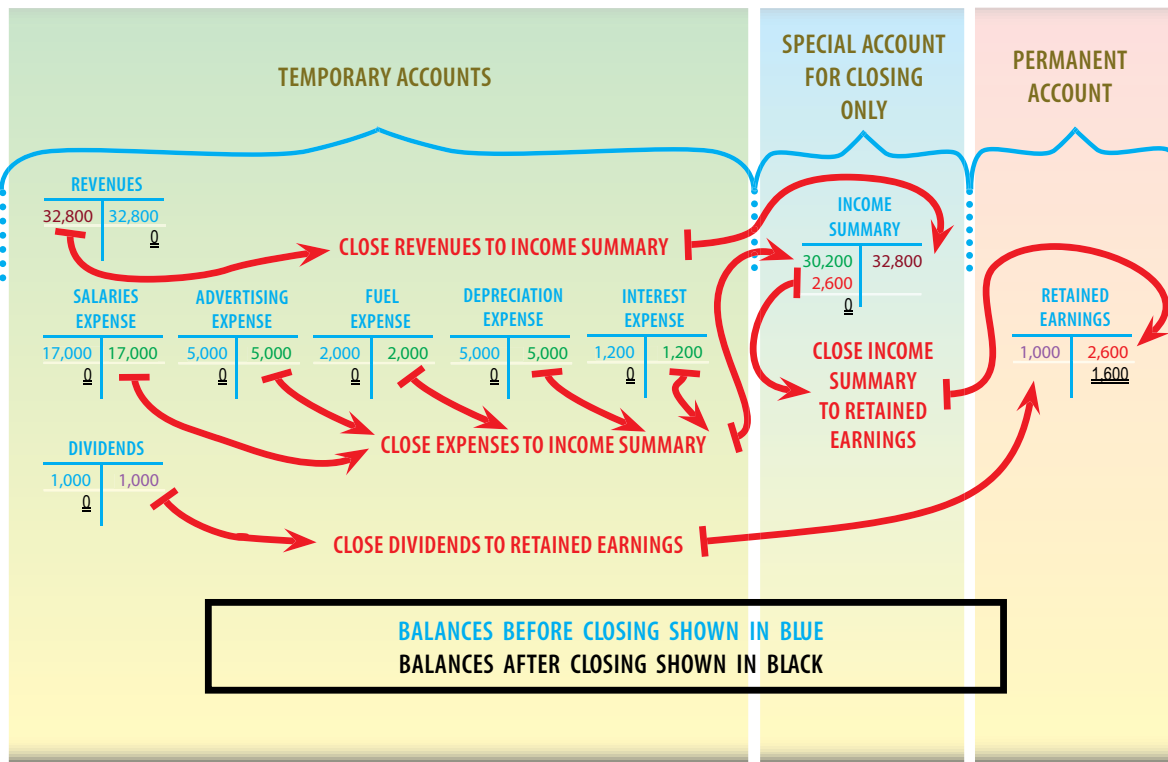
1. Closing is a mechanism to update the retained earnings account in the ledger to equal the end-of-period balance. Keep in mind the recording of each item of revenue, expense, or dividend does not automatically produce an updating debit or credit to retained earnings. As such, the beginning-of-period retained earnings amount remains in the ledger until the closing process “updates” the retained earnings account for the impact of the period's operations.
2. Revenue, expense, and dividend accounts represent amounts for a period of time; one must “zero out” these accounts at the end of each period (as a result, revenue, expense, and dividend accounts are called temporary or nominal accounts). In essence, by zeroing out these accounts, one has reset them to begin the next accounting period. In contrast, asset, liability, and equity accounts are called real accounts, as their balances are carried forward from period to period. For example, one does not “start over” each period accumulating assets like cash and so on – their balances carry forward.

Closing involves a four step process: (a) close revenue accounts (to a unique account called Income Summary – a non-financial statement account used only to facilitate the closing process), (b) close expense accounts to Income Summary, (c) close the Income Summary account to Retained Earnings, and (d) close the Dividend account to Retained Earnings. By doing this, all revenues and expenses are “corralled” in Income Summary (the net of which represents the income or loss for the period). In turn, the income or loss is then swept to Retained Earnings along with the dividends. Recall that beginning retained earnings, plus income, less dividends, equals ending retained earnings; likewise, the closing process updates the beginning retained earnings to move forward to the end-of-period balance.

Below are the closing entries for England Tours. You may find it helpful to compare the accounts and amounts below to those that appeared in the previous adjusted trial balance:

12-31-X3	Revenues	32,800	
	Income Summary		32,800
	<i>To close revenues to Income Summary</i>		
12-31-X3	Income Summary	30,200	
	Salaries Expense		17,000
	Advertising Expense		5,000
	Fuel Expense		2,000
	Depreciation Expense		5,000
	Interest Expense		1,200
	<i>To close expenses to Income Summary</i>		
12-31-X3	Income Summary	2,600	
	Retained Earnings		2,600
	<i>To close Income Summary to retained earnings (balance equals net income)</i>		
12-31-X3	Retained Earnings	1,000	
	Dividends		1,000
	<i>To close dividends</i>		

Be certain to note the effect of the above entries is to (1) update the retained earnings account and (2) cause a zero balance to occur in the temporary (revenue, expense, and dividends) accounts. The Income Summary account is also left “zeroed” out ( $\$32,800 \text{ (cr.)} = \$30,200 \text{ (dr.)} + \$2,600 \text{ (dr.)}$ ). The following T-accounts reveal the effects of the closing entries on the various accounts:



### 8.2 Post Closing Trial Balance

The post-closing trial balance reveals the balance of accounts after the closing process, and consists of balance sheet accounts only. The post-closing trial balance is a tool to demonstrate that accounts are in balance; it is not a formal financial statement. All of the revenue, expense, and dividend accounts were zeroed away via closing, and do not appear in the post-closing trial balance.

ENGLAND TOURS COMPANY		
Trial Balance		
December 31, 20X3		
	Debits	Credits
Cash	\$15,500	
Accounts receivable	4,500	
Equipment	45,000	
Accumulated depreciation		\$ 5,000
Accounts payable		4,000
Salaries payable		2,000
Interest payable		1,200
Notes payable		20,000
Unearned revenue		1,200
Capital stock		30,000
Retained earnings		1,600
	<u>\$65,000</u>	<u>\$65,000</u>

### 8.3 Revisiting Computerization

Many accounting software programs are based on data-base logic. These powerful tools allow the user to query with few restrictions. As such, one could request financial results for most any period of time (e.g., the 45 days ending October 15, 20xx), even if it related to a period several years ago. In these cases, the notion of closing the accounts becomes far less relevant. Very simply, the computer can mine all transaction data and pull out the accounts and amounts that relate to virtually any requested interval of time.



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# 9 Reversing Entries

Reversing entries are an optional accounting procedure which may prove useful in simplifying record keeping. A reversing entry is a journal entry to “undo” an adjusting entry. You will soon see how reversing entries can simplify the overall process.

First, consider this example, which does not utilize reversing entries. An adjusting entry was made to record \$2,000 of accrued salaries at the end of 20×3. The next payday occurred on January 15, 20×4, when \$5,000 was paid to employees. The entry on that date required a debit to Salaries Payable (for the \$2,000 accrued at the end of 20×3) and Salaries Expense (for \$3,000 earned by employees during 20×4):

Illustration without Reversing Entries

20X3			
12-31-X3	Salaries Expense (20X3)	2,000	
	Salaries Payable		2,000
	<i>Adjusting entry for accrued salaries due to employees at the end of December</i>		
	Note: closing would “zero-out” all expense account at the end of 20X3		
20X4			
1-15-X4	Salaries Expense (20X4)	3,000	
	Salaries Payable	2,000	
	Cash		5,000
	<i>To record payroll, part of which related to prior year service</i>		

Let’s revisit these facts using reversing entries. The adjusting entry in 20×3 to record \$2,000 of accrued salaries is the same as above. However, the first journal entry of 20×4 simply reverses the adjusting entry. On the following payday, January 15, 20×5, the entire payment of \$5,000 is recorded as expense:

Illustration with Reversing Entries

<b>20X3</b>			
12-31-X3	Salaries Expense (20X3)	2,000	
	Salaries Payable		2,000
	<i>Adjusting entry for accrued salaries due to employees at the end of December</i>		
	Note: closing would "zero-out" all expense account at the end of 20X3		
<b>20X4</b>			
1-1-X4	Salaries Payable	2,000	
	Salaries Expense (20X4)		2,000
	<i>Reversing entry for accrued salaries</i>		
1-15-X4	Salaries Expense (20X4)	5,000	
	Cash		5,000
	<i>To record payment of salaries</i>		

The net impact of these procedures is to record the correct amount of salary expense for 20x4 (\$2,000 credit and \$5,000 debit, produces the correct \$3,000 net debit to salaries expense). You may find it odd to credit an expense account on January 1, because, by itself, it makes no sense. The credit only makes sense when coupled with the subsequent debit on January 15. Notice from the following diagram that both approaches produce the same final results:

WITHOUT REVERSING ENTRIES:				WITH REVERSING ENTRIES:			
20X3				20X3			
12-31-X3	Salaries Expense	2,000		12-31-X3	Salaries Expense	2,000	
	Salaries Payable		2,000		Salaries Payable		2,000
	<i>Adjusting entry for accrued salaries due to employees at the end of December</i>				<i>Adjusting entry for accrued salaries due to employees at the end of December</i>		
	Note: closing would "zero-out" all expense account at the end of 20X3				Note: closing would "zero-out" all expense account at the end of 20X3		
20X4				20X4			
1-15-X4	Salaries Expense	3,000		1-1-X4	Salaries Payable	2,000	
	Salaries Payable		2,000		Salaries Expense		2,000
	Cash		5,000		<i>Reversing entry for accrued salaries</i>		
	<i>To record payroll, part of which related to prior year service</i>			1-15-X4	Salaries Expense	5,000	
					Cash		5,000
					<i>To record payment of salaries</i>		

**BY COMPARING THE ACCOUNTS AND AMOUNTS, NOTICE THAT THE SAME END RESULT IS PRODUCED!**

In practice, reversing entries will simplify the accounting process. For example, on the first payday following the reversing entry, a "normal" journal entry can be made to record the full amount of salaries paid as expense – without having to give special consideration to the impact of any prior adjusting entry. Reversing entries would ordinarily be appropriate for those adjusting entries that involve the recording of accrued revenues and expenses; specifically, those that involve future cash flows. Importantly, whether reversing entries are used or not, the same result is achieved!

# 10 Classified Balance Sheets

The balance sheet reveals the assets, liabilities, and equity of a company. In examining a balance sheet, you should always be mindful that the components listed in a balance sheet are not necessarily at fair value. Many assets are carried at historical cost, and other assets are not reported at all (such as the value of a company's brand name, patents, and other internally developed resources). Nevertheless, careful examination of the balance sheet is essential to analysis of a company's overall financial condition. To facilitate proper analysis, accountants will often divide the balance sheet into categories or classifications. The result is that important groups of accounts can be identified and subtotaled. Such balance sheets are called "classified balance sheets."



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## 10.1 Assets

The asset side of the balance sheet may be divided into as many as five separate sections (when applicable), in the following order:

- Current Assets are those assets that will be converted into cash or consumed in a relatively short period of time; specifically, those assets that will be converted into cash or consumed within one year or the operating cycle, whichever is longer. The operating cycle for a particular company is the period of time it takes to convert cash back into cash (i.e., purchase inventory, sell the inventory on account, and collect the receivable); this is usually less than one year. In listing assets within the current section, the most liquid assets should be listed first (i.e., cash, short-term investments, and receivables). These are followed with inventories and prepaid expenses.



- Long-term Investments include land purchased for speculation, funds set aside for a plant expansion program, funds redeemable from insurance policies (e.g., cash surrender value of life insurance), and investments in other entities.
- Property, Plant, and Equipment includes the land, buildings, and equipment productively in use by the company.
- Intangible Assets lack physical existence, and include items like purchased patents and copyrights, “goodwill” (the amount by which the price paid to buy another entity exceeds that entity’s identifiable assets), and similar items.
- Other Assets is the section used to report asset accounts that just don’t seem to fit elsewhere, such as a special long-term receivable.

## 10.2 Liabilities

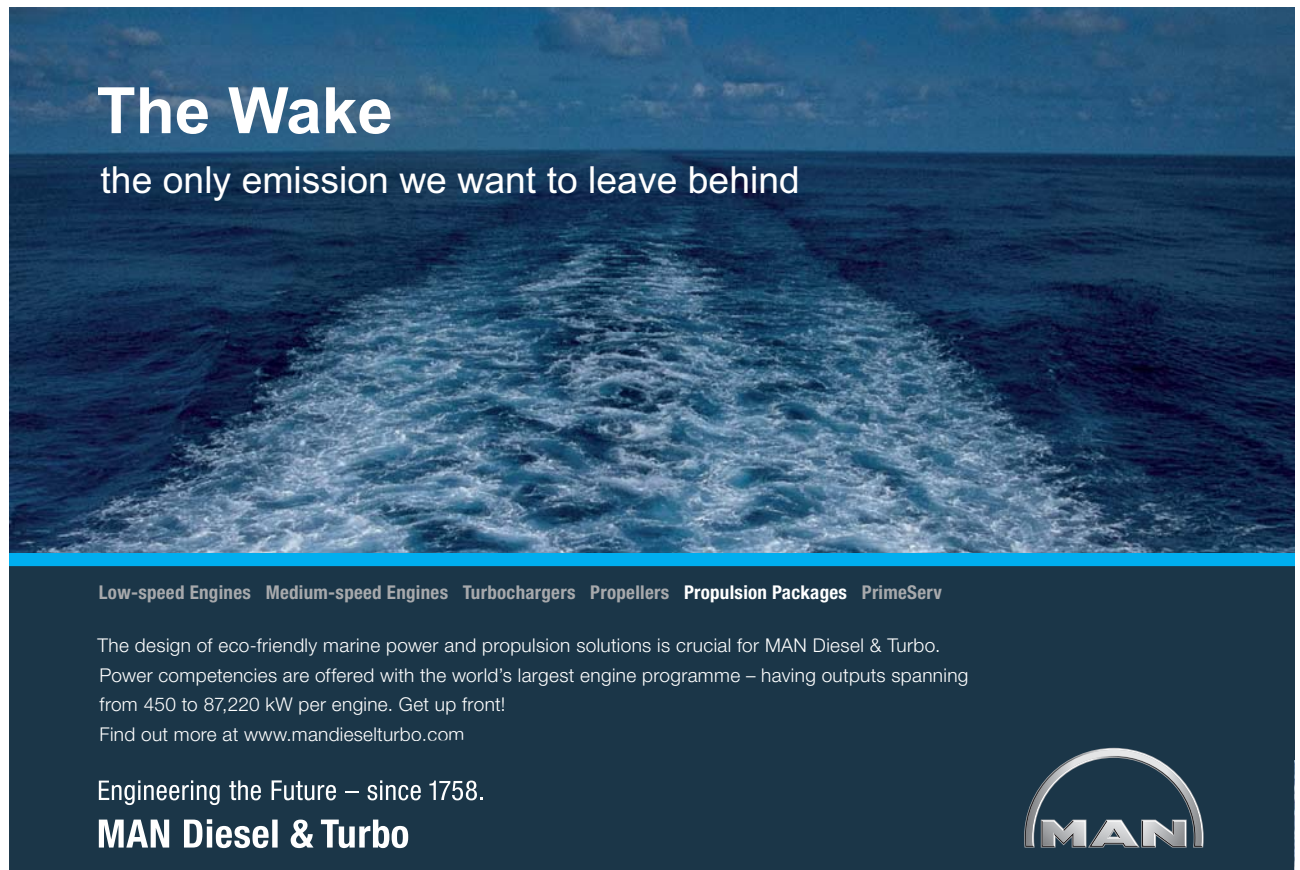
Just as the asset side of the balance sheet may be divided, so too for the liability section. The liability section is customarily divided into:

- Current Liabilities are those obligations that will be liquidated within one year or the operating cycle, whichever is longer. Normally, current liabilities are paid with current assets.
- Long-term Liabilities relate to any obligation that is not current, and include bank loans, mortgage notes, and the like. Importantly, some long-term notes may be classified partially as a current liability and partially as a long-term liability. The portion classified as current would be the principal amount to be repaid within the next year (or operating cycle, if longer). Any amounts due after that period of time would be shown as a long-term liability.

### 10.3 Equity

The appropriate financial statement presentation for equity depends on the nature of the business organization for which it is prepared. The illustrations in this book generally assume that the business is incorporated. Therefore, the equity section consists of:

- Capital Stock includes the amounts received from investors for the stock of the company. The investors become the owners of the company, and that ownership interest is represented by shares that can be transferred to others (without further involvement by the company). In actuality, the legalese of stock issues can become quite involved, and you are apt to encounter expanded capital stock related accounts (such as preferred stock, common stock, paid-in-capital in excess of par, and so on). Those advanced issues are covered in subsequent chapters.
- Retained Earnings is familiar to you, representing the accumulated income less the dividends. In essence, it is the profit that has been retained and plowed back (reinvested) into expansion of the business.




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**MAN Diesel & Turbo**



CLASSY COMPANY Balance Sheet December 31, 20X3					
<b>ASSETS</b>			<b>LIABILITIES</b>		
<b>Current Assets</b>			<b>Current Liabilities</b>		
Cash	\$ 100,000		Accounts payable	\$ 80,000	
Short-term investments	50,000		Salaries payable	10,000	
Accounts receivable	75,000		Interest payable	15,000	
Inventories	200,000		Taxes payable	5,000	
Prepaid insurance	<u>25,000</u>	\$ 450,000	Current portion of note	<u>40,000</u>	\$ 150,000
<b>Long-term Investments</b>			<b>Long-term Liabilities</b>		
Stock investments	\$ 40,000		Notes payable	\$ 190,000	
Cash value of insurance	<u>10,000</u>	50,000	Mortgage liability	<u>110,000</u>	<u>300,000</u>
<b>Property, Plant &amp; Equipment</b>			<b>Total Liabilities</b>		
Land	\$ 25,000				\$450,000
Buildings and equipment	\$ 150,000		<b>STOCKHOLDERS' EQUITY</b>		
Less: Accumulated depreciation	<u>(50,000)</u>	<u>100,000</u>	125,000	Capital stock	\$ 300,000
<b>Intangible Assets</b>				Retained earnings	<u>160,000</u>
Goodwill		275,000	<b>Total Stockholders' Equity</b>		
<b>Other Assets</b>					<u>460,000</u>
Receivable from employee		<u>10,000</u>	<b>Total Liabilities and Equity</b>		
<b>Total Assets</b>		<u>\$ 910,000</u>			<u>\$ 910,000</u>

### 10.4 Other Entity Forms

There is nothing that requires that a business activity be conducted through a corporation. A sole proprietorship is an enterprise owned by one person. If the illustration above was instead being prepared for a sole proprietorship, it would look the same except that the equity section would consist of a single owner’s capital account (instead of capital stock and retained earnings). If several persons are involved in a business that is not incorporated, it is likely a partnership. Again, the balance sheet would be unchanged except for the equity section; the equity section would be divided into separate accounts – one for each partner (representing each partner’s residual interest in the business). Recent years have seen a spate of legislation creating variants of these entity forms (limited liability companies/LLC, limited liability partnerships/LLP, etc.), but the overall balance sheet structure is relatively unaffected. The terminology used to describe entity forms and equity capital structure also varies considerably around the world, but there is very little substantive difference in the underlying characteristics or the general appearance and content of the balance sheet.

### 10.5 Notes to the Financial Statements

Financial statements, by themselves, may not tell the whole story. Many important details about a company cannot be described in money on the balance sheet. Notes are used to describe accounting policies, major business events, pending lawsuits, and other facets of operation. The principle of full disclosure means that financial statements result in a fair presentation and that all facts which would influence investors’ and creditors’ judgments about the company are disclosed in the financial statements or related notes.

# 11 Business Liquidity and the Operating Cycle

As was noted above, careful examination of the balance sheet is essential to analysis of a company's financial health, and the classified balance sheet helps in that analysis. Investors and creditors must be mindful of a company's liquidity. Liquidity is the ability of a firm to meet its near-term obligations as they come due. Inadequate liquidity can spell doom, even for a company with bright long-term prospects and significant noncash assets.

## 11.1 Working Capital

Working capital is the difference between current assets and current liabilities. The illustration for Classy Company revealed current assets of \$450,000 and current liabilities of \$150,000. Thus, working capital is \$300,000 ( $\$450,000 - \$150,000$ ). For obvious reasons, one would hope to find a positive amount of working capital. If not, it may be an indication of financial stress.



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Of course, care should be taken in drawing blanket conclusions about a firm's condition based solely upon an examination of a single number. Could a firm have negative working capital, and still be in great shape? Yes! For instance, the firm may have a standby letter of credit at a bank that enables it to borrow money as needed to meet near-term obligations. Or, some companies are in great shape even though they have negative working capital. Consider a fast food restaurant that has virtually no receivables (most sales are for cash) and a very low inventory (you know bread and milk don't store well). The only current assets may consist of cash, nominal inventories, and some prepaid items. Nevertheless, they may have current liabilities in the form of significant accounts payable and short term debt. How do they survive? The velocity of their cash flow may be very fast, as they hopefully turn large volumes of business at high profit margins. This enables the spinning of enough free cash flow to pay obligations as they come due and have money left over to reinvest in growing other business locations. So, you see that working capital is important to monitor. Just be careful about blanket conclusions based on any single measure.

## 11.2 Current Ratio

Is \$1,000,000 of working capital a lot? Maybe, maybe not. \$1,000,000 is but a drop in the bucket to a corporate giant, and that amount of working capital could signal the end. On the other hand, a "mom and pop" business could be doing grand with far less than \$1,000,000. So, it really depends on the ratio of current assets to current liabilities. The current ratio is used to express the relative amount of working capital. It is calculated by dividing current assets by current liabilities:

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

Classy Company has a current ratio of 3:1 (\$450,000/\$150,000). Be advised that ratios can be manipulated. If Classy wished to increase their current ratio, they could just pay off a little debt. For instance, if they paid off \$50,000 of accounts payable with cash, then current assets and current liabilities would each decline by \$50,000, and the revised current ratio would "improve" to 4:1  $((\$450,000 - \$50,000) / (\$150,000 - \$50,000))$ .

## 11.3 Quick Ratio

A company could possess a large amount of inventory that is not easily sold. Thus, the current ratio (which includes inventory) could signal no problem, all the while the company is struggling to pay its bills. A tougher ratio is the quick ratio. This ratio provides a more stringent test of debt-paying ability by dividing only a firm's quick assets (cash, short-term investments, and accounts receivable) by current liabilities:

$$\text{Quick Ratio} = (\text{Cash} + \text{Short-term Investments} + \text{Accounts Receivable}) / \text{Current Liabilities}$$

Classy Company has a quick ratio of 1.5:1  $((\$100,000 + \$50,000 + \$75,000) / \$150,000)$ .