

5.4: Track the changes in liabilities.

Learning Objectives

Upon completion of this section, students will be able to identify that changes to liabilities occur due to the following business events or transactions

- Exchange assets for liabilities
- Accrual of expenses
- Receipt of unearned revenue

Questions: How do liabilities change with exchanges for assets and how are those changes tracked in the accounting equation?

Liabilities are obligations that must be paid some time in the future and that payment is going to involve assets being transferred. Thus the liability can come about through the purchasing of an asset on credit like we saw in the last section. So a company can buy inventory or equipment and instead of paying cash immediately they receive the inventory or equipment in exchange for a promise to pay for it later (a liability). Then when the company pays for the inventory or equipment, the liability is reduced or satisfied (that can be one payment or many payments) as illustrated below in the accounting equation.

| ASSETS | | = | LIABILITIES | | + EQUITY | STOCKHOLDERS |
|------------------|------------------|-------------------|------------------|-------------------|---------------|-------------------|
| CURRENT | | LONG TERM | CURRENT | LONG TERM | CAPITAL STOCK | RETAINED EARNINGS |
| Cash | Inventory | Equipment | Accounts Payable | Notes Payable | | |
| | Increase \$4,000 | | Increase \$4,000 | | | |
| | | Increase \$12,000 | | Increase \$12,000 | | |
| Decrease \$4,000 | | | Decrease \$4,000 | | | |
| Decrease \$2,000 | | | | Decrease \$2,000 | | |

Note that in the transactions above the inventory was purchased on credit with payment due in 90 days so the purchase and the subsequent payment affected accounts payable (all was paid at once). The exchange was first for inventory in return for a promise to pay and later an exchange of cash in return for a reduction to zero of the amount owed. In the transactions having to do with the equipment we used a long-term liability because we are going to pay off the note payable over a time (several payments) which is why we paid only 2,000 on the note payable and still show an amount owed of \$10,000. The tracking of these transactions looks a lot like those we did in the last section because they are really the same – changes in assets that affect liabilities are the same as changes in liabilities that affect assets. However when payment is made for inventory the change is to the related liability (accounts payable) and not to the asset. Make sure that you see the difference between paying the liability shown above and selling the inventory which we did in the last section. Hopefully you also see that all these exchanges shown above do not impact stockholders equity.

Questions: But are there changes to liabilities that do impact stockholders equity? If so what are they and how would they be shown?

Some unusual transactions can impact liabilities and stockholders equity like borrowing money and giving the cash to shareholders in the form of a dividend would make liabilities go up and retained earnings go down (because liabilities and equity are both on the same side of the equation they must go in opposite directions to stay in balance). We are going to focus on much more common transactions where a business uses an expense (the term in accounting is incurred) but did not pay cash for it – instead they promise to pay for it later. A good example is utilities. Once a company signs up for electricity or gas, they use those costs in their business to keep the lights on or keep the place warm or cool. They use the utilities throughout the month (April) and then the utility

company sends them a bill (\$350) at the end of April that the company will need to pay by the end of May. So for April, there is an increase in expenses (which reduces retained earnings) and an increase in accounts payable (utilities payable if you like more a more detailed chart of accounts). Then when the bill is paid, the cash is reduced and so is the accounts payable (just like we did above in paying for the inventory).

| ASSETS | = LIABILITIES | + EQUITY | STOCKHOLDERS | | | |
|----------------|-------------------------|---------------|--------------|-------------------|----------------|------------|
| CURRENT | CURRENT | CAPITAL STOCK | + | RETAINED EARNINGS | | |
| Cash | Accounts Payable | | Revenues | – Expenses | +Gains/-Losses | -Dividends |
| | Increase \$350 | | | Increase \$350 | | |
| Decrease \$350 | Decrease \$350 (in May) | | | | | |
| | Increase \$600 | | | Increase \$600 | | |

Many expenses (different from assets because they provide current or past benefit) are used by companies without paying for them immediately and thus incur a liability. Some have physical or electronic reminders like the bill from the electric company we just illustrated. Others are a little more mysterious or without reminders like interest or wages. When we borrow money over a long period of time the cost to borrow that money is interest. Every day we have the bank's money (using it in our business) the amount of interest grows or accrues until we pay the amount owed with a transfer of cash or other assets. We probably do not want to show the change in the amount of interest owed every day (the bank certainly does) but rather wait until the end of a month or year or other accounting period to show the increase of \$600 for interest above. Employees work in the same way from an accounting standpoint – every hour that the employee works and we utilize their labor in the business the amount the business owes that employee increases. We probably do not bother to record that increase until the end of the pay period or accounting period when we increase wages expense and increase the current liability (wages payable or accrued wages). When we pay employees or interest the amount owed is reduced to zero just to start growing again with time going by or employee hours worked.

Question: What about the situation where a company receives money from a customer before they have done anything for the customer?

This situation looks very much like when we borrow cash from the bank like we have seen earlier. Cash is going to increase while the current liability is going to also increase to keep the equation in balance. However, instead of settling this liability by giving the customer cash (that is not what they want) we are going to settle the obligation by providing goods or services. That is the obligation and what is owed as shown below:

| ASSETS | = LIABILITIES | + | STOCKHOLDERS EQUITY | | | |
|------------------|------------------|---------------|---------------------|-------------------|----------------|-------------|
| CURRENT | CURRENT | CAPITAL STOCK | + | RETAINED EARNINGS | | |
| Cash | Unearned Revenue | | REVENUES | -EXPENSES | +GAINS/-LOSSES | – DIVIDENDS |
| Increase \$1,500 | Increase \$1,500 | | | | | |
| | Decrease \$1,000 | | Increase \$1,000 | | | |
| | | | | | | |

Note the liability account or term we use is unearned revenue which is also known as deferred revenue. The point is it is not revenue because we have not done what is necessary to earn the revenue at the point the cash was received. Later when we have done work on the project, the unearned revenue goes down by the amount we have earned while the revenues increase. Please do not get unearned revenue and revenue mixed up – unearned means its a liability that is going to be satisfied in the future by providing goods or services at which time the liability becomes revenues. As shown above, the company still owes \$500 worth of services or goods as shown in unearned revenue. You might remember that if you use the term payable you are expecting to provide cash in the future to satisfy the obligation while using unearned or deferred revenue indicates that our obligation will be satisfied with providing goods or services (revenue).

Key Takeaways

Liabilities increase in return for the acquisition of assets, in the borrowing of cash or the receipt of unearned revenue. They decrease when the amounts borrowed are paid back in cash or other assets. Unearned revenue decreases when goods or services are provided to earn the previously unearned revenue.

Check Yourself

1. Arden Inc. receives cash from a customer in April for services that Arden will provide for the customer in June. Which of the following is true about the result of this transaction in April?

- A. Current assets and current liabilities increase
- B. Current assets increase and revenues increase
- C. Current assets and current liabilities decrease
- D. Current liabilities increase and revenues decrease

The correct answer is A. The receipt of cash increases current assets while the unearned revenue increases in the current liabilities keeping the equation in balance and showing that Arden owes the customer future services. There is no impact on revenues in April because nothing has been earned through providing services in April.

2. Arden Inc. has a loan it owes to the bank for \$50,000 which is a long-term liability. Interest on this loan has been growing (accruing) for the past 3 months equal to \$700. To record the impact of this interest growing (not the payment) Arden would:

- A. Increase revenue and increase expenses \$700
- B. Increase expenses and increase current liabilities \$700
- C. Increase current liabilities and decrease long-term liabilities \$700
- D. Decrease current liabilities and decrease current assets \$700

The answer is B. As interest accrues over time because we are using the bank's money, the impact on the accounting equation is an increase in the current liability interest payable and an increase in the interest expense. While some might consider increasing the loan payable (which is a long term liability) it is usually better to keep the interest separate from the principal of the loan. The increase in liabilities and decrease in stockholders equity caused by the increase in expenses keeps the right side of the accounting equation the same.

3. Arden Inc. pays \$1,500 in cash toward the loan mentioned in 2. \$700 to pay the interest and \$800 to pay down the loan principal. This transaction would be recorded as follows:

- A. Decrease current assets \$1,500 and increase current liabilities \$1,500
- B. Decrease current assets \$1,500 and decrease expenses \$1,500
- C. Decrease current assets \$1,500 and decrease current liabilities \$700 and decrease long-term liabilities \$800
- D. Increase current assets \$1,500 and increase current liabilities \$700 and increase long-term liabilities \$800

The answer is C. Payment of cash decreases current assets and payment for the interest decreases the current liability interest payable that was recorded in number 2 and payment toward the loan decreases the long-term liabilities. Both sides of the accounting equation decrease by a total of \$1,500 to keep everything in balance. Note that the expense has already been increased in the transaction in 2.

4. Arden provides all the services agreed to in June for the customer that sent the cash we dealt with in #1. What is the result of providing these services on the accounting equation in June?

- A. Increase in current assets and increase in revenue
- B. Decrease in current liabilities and increase in revenue
- C. Decrease in current liabilities and decrease in revenue
- D. Increase in current liabilities and increase in revenue

The answer is B. Providing the services to earn unearned revenue means that Arden no longer owes services to the customer so the current liability for those services needs to be reduced. Because they are now earned the amount earned represents revenue which should be increased. A decrease to a liability coupled with an increase in revenues (stockholders equity) results in the accounting equation remaining in balance.

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