

## 5.2: Summarizing transactions in the expanded accounting equation

### Learning Objectives

After completing this section, students will be able to

- Identify the expanded accounting equation
- Use the equation to identify the changes to accounting elements

*Question: What is the accounting equation and how does it relate to the financial statements of a business?*

In an earlier chapter, the accounting equation was identified as:

### Assets = Liabilities + Equity

This is also the equation and format for a balance sheet. As business events occur that change the elements of the accounting equation, we track those changes by keeping the equation in balance. So for example if an owner of a business invests \$100,000 in cash into the business in return for ownership of that business (either as a sole proprietor or stockholder) then we use the accounting equation to examine what happened because of this business event.

	<b>ASSETS =</b>	<b>LIABILITIES</b>	<b>+</b>	<b>EQUITY</b>
Investment by owner	Increase 100,000			Increase 100,000

So as shown in the above table – the business’s assets increased by \$100,000 because of the investment and so does the equity which represents ownership by the owner mentioned. Notice that assets = liabilities equity after the business event or \$100,000 = 0 + \$100,000. This means that to keep the equation in balance (and keep the balance sheet balanced) the amount of the change on one side of the equation must equal the amount of the change on the other side.

*Question: That seems to work for the balance sheet but what about the other financial statements?*

We learned earlier that equity (or net assets) especially can be broken down into its components and thus typically equity consists of capital stock (measure of the amount invested by owners like our \$100,000 above) and retained earnings (measure of the amount earned by the business not returned to shareholders). Thus we could expand our equation to:

	<b>ASSETS</b>	<b>=</b>	<b>LIABILITIES</b>	<b>+</b>	<b>EQUITY (Net Assets)</b>
					<b>CAPITAL STOCK</b> <b>RETAINED EARNINGS</b>
Investment by owner	Increase 100,000			Increase 100,000	

Thus, with the equation expanded to show the components of equity, we can show additional detail about our transaction and communicate that on the balance sheet without changing the original equation. This would give us some of the information we need for the statement of changes in equity where we report changes to capital stock (aka common stock) separately from changes to retained earnings.

So can we break down retained earnings even further? Yes we can. Calling upon our earlier discussion of revenues and expenses, we learned that both affect equity (net assets) and more specifically retained earnings. So to expand a little further:

	<b>ASSETS</b>		<b>LIABILITIES</b>	<b>+</b>	<b>EQUITY</b>
	<b>=</b>				<b>CAPITAL STOCK</b> <b>RETAINED EARNINGS</b>

				REVENUES	– EXPENSES	– DIVIDENDS
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Notice that the original equation (balance sheet) has not changed but by expanding equity to include capital stock, revenues, expenses and dividends we can show the changes necessary to communicate not only the balance sheet but also the income statement (Revenues – Expenses) and the changes in stockholders equity like dividends. So retained earnings is increased by revenues and decreased by expenses and dividends. We will look at the statement of cash flows later in the chapter. We could also break down assets into current assets and long-term assets and do the same for liabilities. We can also add in gains and losses under retained earnings so that we get the very helpful equation as follows:

	ASSETS =		LIABILITIES		+	EQUITY			
	CURRENT	LONG TERM	CURRENT	LONG TERM	CAPITAL STOCK	RETAINED EARNINGS			
						REVENUES	– EXPENSES	– DIVIDENDS	GAINS- LOSSES
Investment by owner	Increase \$100,000				Increase \$100,000				

We will refer to the above more detailed breakdown above as the expanded accounting equation. This format allows us to track changes to all the major elements of our three financial statements and thus provide the information needed to communicate the information in a summarized form to investors and other interested parties. We can provide further detail by identifying accounts under each of the accounting elements as listed and described in the chart of accounts we learned about in the last section. So our investment by the shareholder we used as an example was in the form of cash. Thus, for more detail under current assets we could list accounts and one of them would be cash. So our business event increased cash (a part of current assets) by \$100,000 and also capital stock by the same amount. The original equation is still equal ( $A = L + E$ ) and we have been able to provide more information to our investors or potential investors.

### Application Exercises (Check yourself)

- Using the expanded accounting equation shown above to illustrate how would you show the investment by owner differently if they invested equipment worth \$100,000 instead of cash?

The increase on the asset side would be in the long-term asset column instead of the current asset column. We may even want to be even more specific and use an account labeled equipment under the heading long term asset.

What difference would that make? Having cash that would be available to pay employees or other expenses is a different situation from having equipment that while useful is not available to pay bills at least not right away. You see why we might want to give more detail by using accounts from our chart of accounts – the accounts we use help us tell the financial story or paint the financial picture of the business.

- Using the expanded accounting equation shown above to illustrate, what would be different if instead of \$100,000 from shareholders, the \$100,000 in cash was borrowed from a bank?

The increase on the asset side would go back to being to cash under current assets. On the liabilities and equity side, instead of capital stock, there would be an increase in either the current liabilities or long term liabilities columns depending on when the loan was to be paid back. We may even want to provide further detail by indicating the account loan or note payable increased under liabilities.

What difference would that make? The loan would need to be paid back while the owner investment would not need to be repaid. By putting the loan either as current or long term we communicate to those reading the financial statements how quickly the business will need to be able to come up with the money to repay the loan.

## Key Takeaways

The expanded accounting equation allows us to capture changes in all of the elements found on the balance sheet, income statement and changes in stockholders equity while keeping the equation and thus the balance sheet in balance.

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