

Cornhusker Economics

Accrual Accounting and the Farm Business, Part II

Market Report	Year Ago	4 Wks Ago	12-6-19
Livestock and Products.			
Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight	118.00	115.00	*
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	171.59	158.53	163.62
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	149.34	150.79	153.07
Choice Boxed Beef, 600-750 lb. Carcass.	213.43	237.08	227.97
Western Corn Belt Base Hog Price Carcass, Negotiated	46.49	*	*
Pork Carcass Cutout, 185 lb. Carcass 51-52% Lean.	70.56	81.04	80.60
Slaughter Lambs, woolled and shorn, 135-165 lb. National.	133.49	153.15	150.77
National Carcass Lamb Cutout FOB.	384.06	402.45	398.39
Crops.			
Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu.	4.60	3.70	3.69
Corn, No. 2, Yellow Columbus, bu.	3.50	3.60	3.53
Soybeans, No. 1, Yellow Columbus, bu.	8.12	8.32	8.22
Grain Sorghum, No.2, Yellow Dorchester, cwt.	5.61	5.93	5.73
Oats, No. 2, Heavy Minneapolis, Mn, bu.	3.29	3.27	3.14
Feed			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.	*	127.13	*
Alfalfa, Large Rounds, Good Platte Valley, ton.	110.00	107.50	107.50
Grass Hay, Large Rounds, Good Nebraska, ton.	87.50	95.00	95.00
Dried Distillers Grains, 10% Moisture Nebraska Average.	157.50	149.50	156.00
Wet Distillers Grains, 65-70% Moisture Nebraska Average.	50.50	51.50	51.00
* No Market			

My last Cornhusker Economics article, *Accounting Assumptions and the Farm Business (10-16-19)* set the foundation for a specific evaluation of the conceptual framework accrual accounting offers the farm or ranch manager. The article addressed cash accounting and hinted at its shortfalls which were rectified by accrual accounting. This article will explain conceptual frameworks, and two accrual accounting principles; namely the revenue recognition principle and the matching principle.

During one of my graduate school experiences, I encountered a professor who seemed to be in love with conceptual frameworks. I chose a framework and tried to use it as instructed, but it wasn't until many years later that I fully understood the usefulness of a conceptual framework. A conceptual framework is like an algorithm you use to make a choice. Imagine going to a Mexican Restaurant where there is a menu with literally hundreds of choices. You may face bounded rationality, or "paralysis by analysis." To make up your mind, you may need to set up a process. The process could be as follows: first, you want something with carne asada (steak). Second, you don't want anything deep-fried, and finally, you prefer flour tortillas to corn. Once these limitations are made, your choices are pared to a few choices. With less than ten meal choices to choose from, you are no longer afflicted with "paralysis by analysis."

A conceptual framework gives the decision maker a well-established system for evaluation and decision-making. It also eliminates "noise" in the process and may even force the decision maker to set

aside preconceived notions. Accrual accounting and generally accepted accounting principles (GAAP) provide this system to track economic and financial transactions, compile results, and make decisions with a focus on profit. Two main principles should unlock how the framework does this: the revenue recognition principle, and the matching principle.

Revenue Recognition

The most basic explanation of the revenue recognition principle is to record sales when they are sold for cash, sold on account, or when goods are ready for sale and measurable in value.

The first of these scenarios is one that cash accounting handles. Imagine selling grain in November for cash; there is nothing complex or unusual about the transaction. Cash was received in 2019 for a crop grown in 2019.

The second scenario is not handled by cash accounting because no cash is received for goods or services. Without cash being exchanged, how can the sale be tracked, especially when it is known that cash *will* be received in the future? This scenario creates some confusion.

The answer is to replace the exchange of cash for the goods with something else of value. When credit is extended, an account receivable is created, also known as an IOU. Under cash accounting rules, there is no formal way to record this event. Now, I am not suggesting that producers who extend credit don't keep track of their customers, they rely on their own system. The accrual system is neat and tidy in this example. The sale is recorded along with the Account Receivable. When the account is paid off, cash replaces the account receivable in the books, and ultimately the balance sheet.

The third scenario is even murkier. Imagine a grain producer who sells half of his new crop in 2019 and stores the remainder to sell in 2020. The revenue recognition principle asserts the stored grain should be recorded as sales revenue in 2019 because that was the year in which it was produced and made ready to sell.

Accrual accounting is also referred to as “double-entry accounting,” and this is where the genius of the framework lies. When grain was sold for cash, the offsetting entry to sales was cash. When grain was sold on account, the offsetting entry was to ac-

counts receivable. When grain was stored and has to be recognized as sales revenue, the offsetting transaction is inventory. I tell students this entry is like buying the product from yourself.

In all three scenarios, the sales revenue must be easily valued. For scenarios one and two, the amount is easily established. For the third scenario, a market price is used. If this price ends up changing, an appropriate adjustment can be made when the grain is sold from inventory.

Matching Principle

The matching principle goes hand in hand with the revenue recognition principle. This principle states that expenses should be recorded in the period for which they are used. Before going forward, think about what this principle, when used in conjunction with the revenue recognition principle, allows producers to do.

If revenue is recorded in the year it was produced and all expenses are recorded in the year they are used in production, accrual accounting income statements show the profit or loss of production for a fiscal year, no matter when the expenses were actually paid for or when products were actually sold.

This scenario comes up often this time of year when producers are sitting on large revenue (and profit) projections for the year. Their cash income tax returns show large gains, and many want to mitigate income tax liability. One easy solution to this problem is to buy inputs for next year's crop.

In the case of accounts receivable/payable, cash accounting has no way to record the event. Accrual accounting does not have this issue when it comes to pre-buying inputs. Let us see how the conceptual framework of accrual accounting handles the following scenario. *A producer buys \$10,000 of fuel on December 31st, 2019. Is it possible that \$10,000 of fuel can be used in just a day? Obviously not.*

The way accrual accounting addresses this situation is by the account classification “prepaid expense.” A prepaid expense is an asset, and in the case of the fuel purchase, the accounting entry is to increase one asset (fuel) and decrease another (cash).

As the fuel is used in 2020, it will be “expensed.” Fuel expense will be recorded, and the fuel account will go away at the same time. At the end of the year, the account “fuel expense” will show \$10,000, and the account “fuel” will show \$0.

There are many accounts like this, seed, fertilizer, even insurance. Students in my class have a very difficult time understanding that insurance is a prepaid expense, and therefore an asset. Specifically, they believe insurance is a liability. It seems illogical since the insurance company sends us a bill. However, the “bill” is to extend the service into the future. One way that proves the classification of insurance as an asset is what happens when you end insurance midway through the policy; the insurance company cuts you a check for the prorated amount of insurance that is left.

Overview

Even though the revenue recognition principle and the matching principle are separate, their power is not fully realized until they are put together. When GAAP is followed, the accuracy of the income statement from one year to the next is much improved.

Some producers will probably dismiss the need to go through the trouble of converting to an accrual system because they believe they can track financial information with their own system. Believe it or not, they may be right.

One thing I’ll always remember about my grandfather was his red notebook. Grandpa was a very successful farmer and by the time he passed he had acquired (and paid for) enough land to support the families of his four sons. Grandpa’s Red Notebook was his conceptual framework. Unfortunately, he was the only one who knew how to use it, and there certainly was no class to unlock its meaning.

Tim Meyer
Associate Prof. of Practice
Department of Agricultural Economics
University of Nebraska-Lincoln
tmeyer19@unl.edu