

## Reflections on accounting structure and principles (Y2)

### 2.1 Accounting as an academic discipline

Accounting has a rich tradition as both a business practice and an academic discipline. As a practice, accounting goes back to the days of the Egyptian pharos who kept inventory records of their possessions. The double entry system, which is the main aspect of accounting systems that sets them apart from other types of information systems, was originated by Italian merchants in the 14th century and first published by the mathematician Lucas Pacioli in 1494. It is interesting that his description of double entry bookkeeping appeared in a *mathematics* book: *Suma de Arithmetica, Geometria, Proportione, et Proportionalita*.

As an academic discipline, accounting, with its primary roots in *economics*, appears on the university scene in the 1950's. In the early days of accounting scholarship, the most prolific and influential publishers of accounting academic literature were also practitioners. Many of these individuals are members of the Accounting Hall of Fame located here at Ohio State University.<sup>1</sup>

The point is that accounting is more than something that businesses do. Its practice is supported by theory and a conceptual framework that links it to fields of mathematics, economics, psychology and sociology. It is as much a subject worthy of study in a university as it is a business practice.

### 2.2 A systematic approach to understanding accounting

The main objective of this course is to develop an understanding of and appreciation for the accounting double entry system. This system evidently has some advantages -- it has survived relatively unchanged for centuries. We have already spent a (somewhat brief) time studying how the double entry system works. We now concentrate on developing an appreciation for both the elegance and usefulness of the accounting system. We will also (in a subsequent note) study what makes an accounting system so special as an information system.

As we have discussed, the double entry system is based on the idea that for every asset (thing of benefit) there is someone who has a claim to it. The accounting system keeps track of both things simultaneously. This gives accounting information an intuitive economic interpretation in terms of wealth creation (income measurement) and wealth distribution (wealth may be distributed to owners or debtors).

In addition, in most cases the accounting system only records actual transactions between unaffiliated parties. This makes the recording activity somewhat *objective* and *verifiable*. That is, one can verify whether an asset is in place and whom has a claim to it by locating source records (e.g., receipts) associated with the transaction. This verification process is the most important aspect of financial *auditing*. The reason auditing is so important is that once it is decided that performance is to be measured, it puts pressure on the system of measurement. Individuals may have different objectives and so different interests in how performance is measured and reported.

Another important aspect of accounting is the *accrual* process. The accrual process recognizes that assets can take forms other than cash, such as a factory, or a machine, or debts owed to a firm by its customers. Related to this are the important ideas of *recognition* and *matching*. We next briefly explore the implications of measuring performance as cash flow.

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<sup>1</sup> The Accounting Hall of Fame was for many years headed by Professor Thomas J. Burns, who also happened to be the founder of the OSU Accounting Honors Program. At this time the Hall is headed by Professor Dan Jensen.

## 2.3 Cash accounting

Cash accounting is the simplest form of accounting. The main idea of a “pure” cash accounting system is it recognizes cash as the only asset.<sup>2</sup> Transactions in the normal course of business that increase cash (such as a cash sale) are recorded by the double entry system as a debit (left hand entry) to cash and a credit (right hand entry) to revenue. Events that decrease cash are recorded as a debit to *expense* and a credit to cash. The difference between revenues and expenses is termed income. Over time, income is accumulated in the owners' capital account. The capital account contains the owner's current claims on the cash of the company.

One thing that we must be careful about is whether the transaction is in the normal course of business. If the transaction that affects cash involves the startup of the company by its owners or distribution of cash to its owners we would not allow the transaction to affect income. Instead, we would increase or decrease capital directly.

Consider the following example. The company begins the month of January by having its owner contribute \$10,000 in cash. Later that month, the company pays \$5,000 to acquire merchandise for future sale. Still in January, the company makes cash sales of half of its inventory for \$3,000. As the last event affecting cash during January, \$1,000 was returned to its owner.

Let us record the events for January using the double entry system on a cash basis.

a.	Startup of company:	Cash	10,000	
		Capital		10,000
b.	Cash payment for merchandise:	Expense	5,000	
		Cash		5,000
c.	Cash sale:	Cash	3,000	
		Revenue		3,000
d.	Withdrawal by owners:	Capital	1,000	
		Cash		1,000
e.	Closing 1:	Revenue	3,000	
		Income Summary		3,000
f.	Closing 2:	Income Summary	5,000	
		Expense		5,000
g.	Closing 3:	Capital	2,000	
		Income Summary		2,000

Below, we post each journal entry to a T-account. Each entry to a T-account is labeled so you can trace it to the journal entry (and economic event) from which it originated.

<sup>2</sup> The IRS generally requires that companies use a “modified” cash basis of accounting.

Cash	
Beg. Bal.	0
a.	10,000
c.	3,000
End. Bal.	7,000

Capital	
Beg. Bal.	0
d.	1,000
	2,000
End. Bal.	7,000

Revenues	
e.	3,000
	0

Expenses	
b.	5,000
	0

Income Summary	
f.	5,000
	2,000
	0

Lastly, we construct a balance sheet (at the end of January) and an income statement (for the month of January). The income statement measures *flows* that occurred during the reporting period. The balance sheet provides the stocks of cash and capital *at a given point in time*, such as the end of the reporting period.

**Cash basis financial statements:**

**Income statement**  
*For the month of January*

Revenues	\$ 3,000
Expenses	<u>5,000</u>
Income	\$ (2,000)

**Balance sheet**  
*January 31, 2000*

<u>Asset:</u>		<u>Owner's equity:</u>
Cash	\$ 7,000	Capital
		\$ 7,000

Let us make some observations. First, the recording activity is *objective*. The only judgement made was whether the company's initial receipt of cash of \$10,000 and the eventual \$1,000 payment to its owner was in the normal course of operations, which clearly they were not. As mentioned above, objectivity of the accounting records is a characteristic valued by the users of financial statements. Objective financial statements are *reliable*.

However, one might question whether the financial statements as prepared on a cash basis are a fair representation of the company's financial position and performance. That is, are they *relevant* for evaluating the firm? We now investigate this question.

The company has only sold half of its merchandise by the end of January. If the other half of that merchandise can be sold in February for \$3,000 as well, an eventual income of another \$3,000 will result on a cash basis. (The "if" is important in this statement.) The total income resulting from the two transactions is 3,000 - 5,000 for January, plus 3,000 - 0 for February, which adds to \$1,000. Yet the income statement for January shows a \$2,000 loss. One way to think about the problem is that we have expensed all \$5,000 in January and so not shown the inventory as an asset. If the inventory can be sold later on, it represents a future benefit to the firm, yet it does not appear on the cash basis Balance Sheet on January 31.

**2.4 Accrual accounting**

*Accrual* accounting is an attempt to provide a fairer representation of the company's financial position and performance than would cash accounting. Accrual accounting departs from cash accounting in that other assets besides

cash are recorded in the financial statements. Of course, debts owed by the company are also recognized as *liabilities*. Here is how a typical accrual accounting system would record the events.

Startup of company:	Cash	10,000	
	Capital		10,000
Cash payment for merchandise:	Inventory	5,000	
	Cash		5,000
Cash sale:	Cash	3,000	
	Revenue		3,000
	Expense	2,500	
	Inventory		2,500
Withdrawal by owners:	Capital	1,000	
	Cash		1,000
Closing 1:	Revenues	3,000	
	Income Summary		500
	Expenses		2,500
Closing 2:	Income Summary	500	
	Capital		500

#### Income Statement

*For the month of January*

Revenues	\$ 3,000
Expenses	<u>2,500</u>
Income	\$ 500

#### Balance Sheet

*January 31, 2000*

<u>Assets:</u>		<u>Owner's equity:</u>	
Cash	7,000	Capital	9,500
Inventory	<u>2,500</u>		
Total Assets	9,500		

Note that the \$5,000 payment for merchandise is initially recorded as an asset, *inventory* rather than an expense. Also, we see two journal entries made at the time of the sale. Because during January half of the inventory was sold for \$3,000, only half of the cost of the inventory is expensed. This procedure of allowing the recognition of revenue to govern when expenses occur is called *matching*. Matching is the crucial feature of accrual accounting -- it is proper revenue recognition and matching that comprise the major portion of the accountant's art.

One may now feel that the transactions as recorded by the accrual system provide a better representation of the firm's financial position and performance than under the cash system. That seems reasonable, assuming the leftover inventory is, in fact, sold in the future. But what if the inventory left over was obsolete (like a daily newspaper) and hence could not be sold? In that case, one might regard the cash basis as a better representation of the firm's financial position and performance!

Regardless, at this stage we really have no benchmark for evaluating exactly what is a meaningful measure of the company's financial position and performance. It is, in part, a matter of judgement. This is where the accountant's art enters. We will investigate this further in the next section.