Depreciation and Capital Expenditures Determine Income Growth

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My students in Ag Cooperatives class often struggle with the concept of depreciation. It is a complex subject particularly when all of the impacts on the firm are considered. The basic concept of depreciation is a measure of the amount of an asset "used up" during an accounting period. If my son mows yards and calculates his income without depreciation he will be overestimating his actual income since he is gradually wearing out his lawn mower. Depreciation is important from an accounting standpoint because it helps lets us measure income and value assets. From the accountant's standpoint there is no linkage between depreciation and reinvestment. Accounts don't make value judgments about a firm running down its asset base, they simply ensure that the financial statements accurately reflect the changes. Boards and CEOs are concerned with the sustainability and the growth of their cooperative. They need to understand the linkages between depreciation, capital expenditures and the growth of the firm.

The fundamental determinants of the growth of firm can be represented by various accounting formulas. One useful formula is

Growth rate = equity reinvestment rate x return on equity

The equity reinvestment is the amount by which capital expenditures exceeds depreciation. It can also be thought of as "net capital expenditures". The equity reinvestment rate is simply that level of "net investment" as a percent of net income. This brings to light the relationship between depreciation and capital expenditures. If a cooperative, or another firm, has capital expenditures less than their depreciation then their equity investment rate will be negative which leads to a decline in income. The amount by which capital expenditures exceeds depreciation is the key determinant of the growth rate. If you want your cooperative to grow you must consistently keep your capital expenditure budget above your annual depreciation.

Like all great guidelines there are few assumptions involved. One of those assumptions is that the depreciation that we measure from an accounting viewpoint reflects the actual change in productive value of our assets. I'll discuss the differences between accounting depreciation and economic deprecation in my next newsletter.

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