Economic Depreciation versus Tax Depreciation

Phil Kenkel
Bill Fitzwater Cooperative Chair

In my last newsletter I described how the growth of a firm is determined by its earnings retention rate (net capital investment as a percent of net income) multiplied by its return on equity. Net capital investment is capital investment less depreciation. The intuition is easy to understand. In order for your cooperative to grow you have to be investing in assets at a rate greater to the rate at which they are wearing out. The growth in income from additional investment is a function of how much you investment and how much profit you generate on your assets.

The concept of net capital investment involves economic depreciation. which is one of several deprecation measures. Tax depreciation is recorded on the cooperative's income tax returns. Tax depreciation is based on IRS rules which might state that an item of equipment has a 7 year life regardless of how long it is expected to be in service at a particular cooperative. IRS rules also allow for accelerated depreciation which puts more depreciation expense in the early years. In addition, congress placed into effect a bonus depreciation program which, for a period of time, allows for up to 50% of qualified property to be expenses in the year it is placed in service. Because of the time value of money it is always logical to pay taxes latter rather than sooner. Accelerated depreciation and bonus depreciation make good business sense but result in the deprecation shown on the tax form being a poor measure of the actual decline in assets.

Economic depreciation is the measure of decline in the productive value of an asset. In essence it measure how the present value of stream of future cash flows associated with the asset decreased. Economic depreciation is similar to the concept of book depreciation which is an accounting principle that matches the income generated in a period with the costs incurred in the same period. One company might expect a machine to last ten years and thus use a straight line 10 year depreciation schedule. Another company might believe the machine will be useful for only five years and thus have 5 year depreciation. Accounting standards and IRS rules allow a company to use different depreciation methods for book value and tax returns.

Book value depreciation is a good but not perfect estimate of economic depreciations. Firms are using some assets that are fully depreciated. Obviously the previous depreciation of those assets must have been overestimated if they are still creating value. Assets are also often disposed of at either a gain or loss from book value, highlighting the fact that our estimate of economic depreciation (book depreciation) is never perfect.

The take home message is that, in order for your cooperative to grow, capital expenditures must exceed economic depreciation. That means investing more than your book depreciation. If you are operating fully depreciated assets your true economic depreciation and your level of necessary capital expenditures, is likely a little bit higher. In my next article I will discuss the return on equity on that new capital investment.