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# Accounting Lags behind a Knowledge Economy

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*Some financial analysts worry that high price-earnings ratios reflect unfounded optimism in corporate earnings potential and signal a return to the "bubble" market; however, conventional accounting methods used to determine the value of companies have not kept pace with changes in the U.S. economy and are therefore understating the value of America's most dynamic companies. High price-earnings ratios seem to indicate that investors are wise to that.*

Now that the U.S. stock market is recovering, we are hearing again that speculation is increasing and the fearful "bubble" is coming back. The most commonly cited evidence for this is that price-earnings ratios are still high by historical standards and thus, it is asserted, investors' renewed interest in stocks must reflect an over-optimistic assessment of the future. This view neglects the vast changes that have occurred in the U.S. economy and how these changes have affected the usefulness of generally accepted accounting principles (GAAP) for determining the value of public companies.

GAAP accounting was developed in a world where productive assets were tangible and were purchased by companies from third parties. Thus, a railroad purchased its rolling stock, a manufacturer purchased machine tools, and a retailer purchased a building for use as a store. The costs of these items were placed on the purchaser's balance sheet through a process known as capitalization and were depreciated over time as the assets were used to generate revenues. This provided an accurate picture of a company's profitability, because—at least in theory—it gathered into the same period both the revenues of the company and the costs of the assets used to generate them.

However, this standard accounting treatment, when applied to today's companies, produces a misleading result. It is commonplace that the United States now has a knowledge or information economy, in which value is produced by intellectual effort—designs for computer programs, pharmaceuticals, clothing—rather than physical production. Indeed, the corresponding shrinkage of the manufacturing sector has become an issue for the presidential election. But while most people accept this idea, they do not consider its implications for accounting.

## Beyond GAAP

Under GAAP, the salaries of employees are written off as they are incurred. Thus, the intellectual work done by designers, researchers, and engineers—even though it generates a productive, revenue-yielding asset such as a computer program—does not appear on any company's balance sheet.

The consequences of this practice are clearly observable in today's securities markets. In the early 1970s, the ratio of the market value of U.S. companies to their balance sheet value was

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essentially one-to-one. By the late 1990s, this ratio was six-to-one.

This phenomenon largely accounts for the historically high price-earnings ratios many analysts decry as evidence of a reviving bubble. In the traditional manufacturing company, earnings are computed by deducting from revenue an amount equal to the annual depreciation of machinery, equipment, and so forth. However, for today's knowledge companies, which generally create their productive assets internally through intellectual work by their employees, reported earnings have already been fully reduced by writing off the related costs as they were incurred. These are not isolated cases. An estimated 80 percent of the value of the Standard & Poor's 500 is made up of intangible assets of all kinds.

Thus, in a sense, the earnings of companies in today's knowledge economy are of a higher quality than the earnings of traditional companies. Whatever their absolute amount, the earnings produced by internally generated intangible assets have already been reduced by costs that in traditional companies would be capitalized and written off over time. No wonder investors give them a higher price-earnings ratio.

It is important to note that this result reflects an inherent deficiency in GAAP, which is based on the otherwise sensible principle that the appropriate balance-sheet value of productive assets should be determined from their purchase price. Indeed, for the hundreds of years during which the accounting concepts that underlie GAAP were being developed, companies purchased their productive assets from outside sources. However, with the advent of the knowledge economy these assets could be and have been developed internally. They frequently have values—either higher or lower—that are wholly unrelated to the actual employee costs involved, making those costs unusable for capitalization on the balance sheet.

In other words, the historically high price-earnings ratios that we see today are a reflection not of a renewed bubble, or investors' over-optimism, but of the failure of GAAP as a system of financial reporting in the knowledge economy.