



## **Increasing cap rates, interest rates, compounding, inflation, and capitalism: What's the connection? - by John Rynne**

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Overall capitalization rates and mortgage interest rates are loosely joined at the hip. Interest rates are rising and are projected to rise over the next few years. In my almost 45 years as a real estate appraiser and analyst, the low interest rates of the last 10 years were unprecedented. The Federal Reserve Bank had artificially kept interest rates low. One of the Fed's main tools in accomplishing this was the acquisition of U.S. treasuries and other federal government debt instruments. With the Fed acquiring this debt in large numbers, interest rates stayed at a low level. This is known as monetary policy.

The main goal of the Federal Reserve is to:

- 1) Keep inflation at a relatively low level; but not too low and
- 2) Keeping unemployment at a low level.

Relatively low levels of inflation which are acceptable may range from 1-4%. This means that inflation at relatively low levels is healthy.

However, when there is deflation which has occurred in some parts of Europe and Japan over the last decade is harmful to an economy because deflation stymies economic growth. Within the last decade in parts of Europe, there has been some negative interest rates on savings accounts. This means that in order to have a "safe" place for savings there is a partial reduction or confiscation of the savings account. Obviously a deterioration of any capital account is not desired. In a capitalistic society, most investments appreciate over time. This creates the building of wealth through the compounding principle which is the basis of any semi-capitalistic economy. Just an editorial comment—no economy that I know of is 100% capitalistic— which means all economies have different degrees of socialism.

The principle of compounding that is programmed into spread sheet software or financial calculators is based upon a simple formula  $(1 + i)^n$  where "i" is the interest rate. This is the future value of \$1 or the building block of the "Six Functions of a Dollar." So if you have \$1 to invest for one year at 5%, the value at the end of one year would be \$1.05 or  $(1+.05) \times \$1$ . This represents the first column of the "Six Functions of a \$1." The future value of \$1 in two years would be \$1.1025 or  $(1+.05)^2$ , or to the 2nd power.

The second column of the six functions is the future value of \$1 per period which is based upon a semi summation of column 1.

The third column of the six functions of \$1 is the reciprocal of the second column and is known as the sinking fund column.

The fourth column is the reciprocal of column 1 or present value of \$1.

The fifth column is a semi summation of column 4 or present value of \$1 per period.

The sixth column is the reciprocal of column 5 sometimes called the amortization column. This is the column that loan annual debt service is based upon. It's amazing that all these future value and present value concepts are based upon one simple formula  $(1+i)$  which is the basis of capitalism as we know it.

So the capitalistic world is very dependent upon reasonable positive inflation levels—certainly not deflation or the runaway inflation of a number of South American countries such as Venezuela and Argentina. Reasonable inflation is especially important to real estate because appreciation is a very important component of yield. It's part of the change in equity over the holding period. There have been numerous rate increases by the Fed within the last year. At the same time the Fed has been selling off treasuries, mortgage backed securities and other assets from the current approximate \$4.5 trillion balance sheet. This naturally will increase interest rates.

Since the beginning of the fourth quarter 2017 to the end of the fourth quarter 2017, the 10-year treasury increased only 12 basis points. However, at the end of the fourth quarter there was warranted speculation that more frequent rate hikes will occur. In fact, between the end of the fourth quarter of 2017 and one month later, the 10-year treasuries increased 28 basis points.

Of course, overall cap rates typically will change in the direction of interest rates but usually at a lesser rate. There are many reasons for this, such as investment property owners holding onto properties for the long-term. Also, higher interest rates sometimes are a result of increasing economic vitality. As an example, the recent Tax Cuts and Job Act legislation will spur more demand for property which could offset substantially higher interest rates. In summary, the overall capitalization rates are on the rise but at a very low progression.

See the 4th quarter 2017 rate survey on our website at [www.RynneMurphy.com](http://www.RynneMurphy.com)

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