While stocks as a whole move in advance of the economy, specific sectors have different relative performance throughout the economic cycle. Depending on the business activities of a given sector, there is generally a particular phase of the business cycle that is more favorable to those activities than are other phases.

In the long run, a stock’s price is driven by a company’s ability to grow sales and earnings. However, many factors can dictate whether a company is successful in this venture.

As the last few years have shown, the economy can have a significant impact on a company’s financial success (or failure). Many companies have seen their earnings fall because of the downturn in the economy and, consequently, the value of their shares has fallen.

That is not to say, however, that all stocks react the same way during periods of economic expansion or contraction.

This article will explore the general characteristics of the economic cycle during its various stages. It will also examine how various industries and investment styles react to these stages and how investors may be able to use the economic cycle to their advantage when developing an investment plan.

The business cycle can be further divided into its component parts. Through the course of expansion, a point will be reached where most businesses are operating at full capacity and real GDP is growing rapidly. This point in the business cycle is the business peak. Then, as business conditions slow, the economy enters a period of decline or contraction, oftentimes referred to as a recession. During the period of contraction, sales of most businesses fall, real GDP growth slows or even declines, and unemployment increases. If the recession is prolonged and severe, it could be classified as a depression.

The bottom of the contraction phase is referred to as a recessionary trough, after which economic conditions begin to improve and the economy enters the expansion phase of the business cycle—sales rise, real GDP grows, and unemployment declines.

The length of economic cycles, including periods of recession and expansion, has varied significantly over the years. The longest period of economic growth in the U.S. was from 1982 to 2001, a period of 19 years. The shortest period of economic growth was from 1991 to 1997, a period of 7 years.

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THE MARKETS

From the business peak to the recessionary trough—since the beginning of 1855 to March of 1991, has been 65 months (from October 1873 to March 1879). This data is compiled by the National Bureau of Economic Research (NBER; www.nber.org), the organization charged with declaring when recessions begin and end.

Although the most common definition of recession is when GDP declines for two consecutive quarters, the NBER bases its announcements on elements such as employment, industrial production, real personal income, and manufacturing and trade sales.

On the flip side, the longest period of expansion during this same period—from recessionary trough to business peak—has been 106 months, from February 1961 to December 1969. Between 1965 and 1991, the average length of economic expansion has been 35 months—although the average has increased in the postwar years to 50 months. Contractions over the period of 1865 to 1991 have averaged 18 months, falling to 11 months since 1945.

Figure 1 shows the performance of the S&P 500 against the backdrop of recessions and expansions since 1950. The shaded areas on the chart indicate recessionary periods. According to the NBER, we are currently in a recessionary phase of the economic cycle, which began in March 2001. This places us in the 30th month of contraction and counting, beating the previous longest postwar contraction by 14 months.

There is a caveat to this, however. By the time a reversal in the economy is announced—either a peak or a trough—the trend is usually months or even years developed. Since 1980, the NBER has announced four business peaks and three business troughs. On average, there has been a seven-month lag between when a business peak forms and the NBER announces its formation. The longest delay was nine months between the formation of the July 1990 peak and the announcement on April 25, 1991, while the shortest was five months between the January 1980 peak and the announcement on June 3, 1980. For business troughs, the lag is even longer, averaging 13.7 months for the three that have formed since 1980. The largest delay in announcing a trough was 21 months between the formation of the March 1991 trough and the announcement on December 22, 1992. The shortest announcement gap was eight months between the November 1982 trough and the announcement on July 8, 1983.

[For more on what indicators to watch for clues on the business cycle, see “The Top 10 Economic Indicators: What to Watch and Why,” starting on page 13 of this issue.]

What does all this mean for the stock market?

As a general rule, economic declines tend to have an adverse impact on the overall stock market and individual stock prices, although there are exceptions, which we will discuss shortly. Specifically, data compiled by Jeremy Siegel in his book “Stocks for the Long Run” (Mc-Graw Hill Trade, 2002) show that for the 42 recessions that have occurred since 1802, 39 were preceded by stock market declines of at least 8%. For the period of 1948 to 1990, during which there were nine peaks in the business cycle, stocks lost an average of 8% between the peak of the stock index and the peak in the business cycle. The lead time over this period between the peak of the stock index and the peak in the business cycle was 5.7 months. Furthermore, during this period, the 12-month decline in stocks following the business cycle peak averaged almost 17.5%. Like all economic and investment models, the stock market does provide some false signals in terms of predicting recessions. Siegel points to 10 times between May 1946 and August 1998 when the Dow Jones industrial average fell by
TABLE 1. THE ECONOMIC CYCLE AND INDUSTRY GROUPS

<table>
<thead>
<tr>
<th>Economic Cycle Stage</th>
<th>Characteristics</th>
<th>Business Cycle Industries That Do Well in This Stage</th>
<th>Examples</th>
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</thead>
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<tr>
<td>Expansion:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Early Stage</td>
<td>Low, increasing inflation</td>
<td>Cyclicals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low, increasing interest rates</td>
<td>Consumer credit: Firms that are tied to the housing industry</td>
<td>Savings and loans, regional banks</td>
</tr>
<tr>
<td></td>
<td>High unused capacity</td>
<td>Energy: Companies that produce energy-related products</td>
<td>Oil, coal</td>
</tr>
<tr>
<td></td>
<td>Low inventory</td>
<td>Consumer cyclicals: Manufacturers of consumer products that respond to the changes in disposable income</td>
<td>Advertising, apparel, auto manufacturers, retailers</td>
</tr>
<tr>
<td>Middle Stage</td>
<td>Moderate inflation</td>
<td>Basic materials: Companies manufacturing materials (not machinery) to produce finished goods</td>
<td>Chemicals, plastics, paper, wood, metals</td>
</tr>
<tr>
<td></td>
<td>Moderate interest rates</td>
<td>Technology: Companies manufacturing high-tech products for consumers and businesses</td>
<td>Semiconductors, computer hardware, software and services, communications equipment</td>
</tr>
<tr>
<td>Late Stage</td>
<td>High inflation</td>
<td>Capital goods: Companies manufacturing machinery used to produce finished goods</td>
<td>Equipment and machinery manufacturers</td>
</tr>
<tr>
<td></td>
<td>High interest rates</td>
<td>Financials: Firms tied to loans that are in demand due to economic expansion</td>
<td>Corporate and institutional bankers</td>
</tr>
<tr>
<td></td>
<td>Low unused capacity</td>
<td>Transportation: Companies that transport goods and passengers</td>
<td>Airlines, trucking, railroad</td>
</tr>
<tr>
<td></td>
<td>High inventory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recession</td>
<td>Decreasing inflation</td>
<td>Defensive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Decreasing interest rates</td>
<td>Consumer staples: Manufacturers of basic consumer products that are purchased at largely the same level through all economic cycles</td>
<td>Food, drugs, cosmetics, tobacco, liquor</td>
</tr>
<tr>
<td></td>
<td>Increasing unused capacity</td>
<td>Utilities: Regulated companies providing products and services such as electricity</td>
<td>Electric, gas, water</td>
</tr>
<tr>
<td></td>
<td>Decreasing inventory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent of</td>
<td>Varied economic circumstances</td>
<td>Growth</td>
<td></td>
</tr>
<tr>
<td>Economic Cycles</td>
<td></td>
<td>Industries and companies in the early stage of a life cycle: Expanding quickly and not subject to economic cycles</td>
<td>Biotechnology</td>
</tr>
</tbody>
</table>

more than 10%, yet no recession occurred in the following 12 months.

There were nine business cycle troughs between 1949 and 1991, and during this time there was, on average, a 5.1-month lead time between the trough in the stock index and the trough in the business cycle. The average rise in the stock index during this lead-time period was over 23.8%. This data bodes well for the current economic environment. The Wilshire 5000, the broadest index for U.S. equities, has risen 26.3% (as of July 11, 2003) since bottoming out on March 11 of this year, just over four months ago.

TIMING THE BUSINESS CYCLE

As the data presented here indicates, there are opportunities to benefit from properly timing peaks and troughs in the business cycle. However, pinpointing these reversals is much easier said than done. Data shows that, for the vast majority of times, stocks fall prior to recessions. Therefore, a prudent investment plan would be to switch from stocks to Treasury securities when an economic downturn begins and switch back to stocks once the prospects for recovery look good. However, since World War II, if you were to follow this plan and switch exactly at the economic peaks and troughs, you would have done only slightly better than a buy-and-hold strategy. Siegel states that if you mistimed your switch by only one month, you would have underperformed buy-and-hold by 0.6% a year. His research shows that the maximum excess return generated by switching comes four months prior to the business peak or trough, which would have beat buy-and-hold by 4% a year. However, since it has taken economists an average of almost 14 months to call a business trough after it has formed since 1980, it is virtually impossible for individuals to reap these excess
returns.
That is not to say that other methods cannot be employed to benefit from the business cycle. The following will discuss stock market rotation—the shift of assets from one investment style, industry, or sector to another.

**SECTOR ROTATION**

Sector rotation is movement from one or more sectors into one or more other sectors and is based upon the premise that economic cycles exhibit characteristics that impact sectors or industries differently during the stages of expansion and contraction. The hope is that, by shifting between sectors, you can take advantage of how the various sectors (or industries) respond to the business cycle.

While stocks, as a whole, do move in advance of the economy, specific sectors have different relative performance throughout the economic cycle. Depending on the business activities of a given sector or industry, there is generally a particular phase of the business cycle that is more favorable to those activities than are other phases.

Table 1 shows which kinds of stocks do well in various economic stages along with a description of the economy at each stage. The table is divided into three major industry groups—cycicals, defensive, and growth.

Cyclical industries’ fortunes are tied to the performance of the economy. The cyclical industries have been further categorized depending upon when in the economic upturn they tend to perform well. Defensive industries (not to be confused with the defense industry) tend to perform well during recessions. Growth industries are in a stage of rapid expansion, relatively independent of the economy’s strength, or lack thereof. It is important to keep in mind that the table is a general characterization of economic or business cycles.

**The Cyclicals**

In examining the groups, certain patterns become apparent. Cyclical groups, whose underlying demand is tied to consumers, tend to be very sensitive to turns in the economy.

Consumers can react very quickly to changes in income and interest rates. Deferring the purchase of a washing machine does not require the approval of an executive committee or board of directors. Nor does a family need to do an extensive capital budgeting analysis to determine whether it makes sense.

Capital goods producers, on the other hand, tend to perform strongly later in the economic cycle. Coming out of a recession, there is usually much unused capacity, so manufacturers of consumer goods can initially accommodate demand for their products without the need for additional investment. Farther into the cycle, when consumer goods manufacturers need additional capital goods, considerable time lags often exist between the time specialized capital goods are first ordered and the time they are finally delivered. This time lag helps to explain why capital goods manufacturers may report increased sales for some time after a downturn in the economy.

Before an increase in the economy, some sectors tend to take off; the consumer housing market is an example of such a segment. Recession bottoms tend to carry low interest rates due to weak demand for loans, since fewer businesses need financing for expansion. Low credit demand coupled with the typical government policy of easier money at economic bottoms leads to lower interest rates, which in turn make it cheaper and easier to purchase large items such as residential housing. An increase in housing demand has many multiplier effects—consumer credit, construction, and consumer cyclical sectors benefit from such a move. When the housing boom incorporates many first-time homeowners, home furnishings and consumer durables manufacturers benefit as these new households require basic items such as furniture, stoves, and refrigerators.

**Defensive Stocks**

Consumer staples are often referred to as consumer non-cycicals or defensive industries. The demand for the products of these industries tends to remain fairly constant throughout economic cycles. Health care providers, food producers, tobacco, and liquor producers face consistent demand for their goods. There are, however, other things to consider. While consumers must purchase food during good times and bad, shifts in purchasing habits are common with changes in the economic cycle. Consumers will probably substitute cheaper foods for higher-priced prepared foods during downturns.

General industry trends independent of the economic cycle sometimes have an overriding effect on the demand for goods. The demand for tobacco, for example, is largely independent of the economic cycle; it is not immune, however, to changes in the lifestyle of U.S. consumers. The movie industry used to be considered a good defensive industry. In fact, it would often show growth during recessionary times as people substituted movie going for more expensive forms of entertainment. With the growth of cable TV and videotape/DVD rentals over the last decade, these newer industries have become inexpensive substitutes for the relatively high cost of movie-going today.

Utilities also perform well during downturns. Utilities are huge borrowers of money. The low interest rates that accompany recessions lower utility operating costs, raising profitability. Additionally, their high dividend yields at these points will attract investors seeking both relative safety and high income. Of course, utilities also benefit from economic upturns as demand for energy and services from industrial customers increases.
The Growth Sector
Some industries experience growth without regard to the economy; although from economic cycle to economic cycle, growth industries change. These industries typically perform very well during recessions as investors flee companies releasing negative earnings reports and search out those firms with increasing earnings. The biotechnology industry is still in its growth stage with expanding sales independent of the economy.

STYLE INVESTING

Just as certain sectors do better during various phases of the business cycle, so too do different investment styles. Two types of style investing that have garnered a significant amount of coverage over the years have to do with market capitalization (current market price multiplied by the number of shares outstanding) and the notion of growth stocks versus value stocks.

Market Cap
Numerous academic studies and empirical data show that, over long periods of time, small-company stocks outperform stocks of large companies. Figure 2 shows the cumulative percentage return of the S&P 500, S&P MidCap 400, and S&P SmallCap 600 indexes since the end of 1993, when the mid-cap and small-cap indexes came into existence. While this is a relatively short time period from which to draw meaningful conclusions, some observations can be made. Large-company stocks, as represented by the S&P 500 index, dominated small- and mid-cap companies for most of the period, up until seven months before the beginning of the current recession (indicated by the shaded area on the chart). For the period of January 1, 1994, through February 28, 2001, the S&P 500 generated a cumulative return of 204.3%, while the S&P 400 and 600 indexes gained 208.1% and 129.0%, respectively; this amounts to monthly averages of 1.4% for the S&P MidCap 400, 1.4% for the S&P 500, and 1.1% for the S&P SmallCap 600.

Since then, and throughout the current recessionary period, small-cap stocks have outperformed large- and mid-cap stocks, with a cumulative return of 4.9% through the end of June. The S&P 500 has generated a -18.5% return and the S&P MidCap 400 returned -0.9%.

The beginning of the current recession was especially hard on the S&P 500 index, as it fell from its highs over the first several months. At the same time, the S&P 400 and 600 indexes managed to recover slightly from their initial declines before finally succumbing to the economic malaise in the middle of 2002.

Looking at the make-up of these three indexes at the end of 2001, it appears that the S&P 500 was hurt by its exposure to large-cap industrial, financial, and information technology companies, which accounted for over 13% of the index and lost 7.0%, 10.5%, and 26.0%, respectively, in 2001. The S&P 400 index benefited from strong performance in consumer discretionary companies, which made up 14.3% of the index, and it gained 13.4% in 2001. These companies made up 17.6% of the S&P 500 index at the end of 2001, yet the large companies in this sector gained only 2.0% in 2001.

All three indexes have rebounded from their March 2003 lows, further indication that the economy is showing signs of recovery. If so, this is encouraging news for small-company stocks, which tend to do well coming out of recessions.

Growth Versus Value
Value investing has been a popular topic since the research of Graham and Dodd. Stocks that exhibit low price-to-book or price-to-earnings ratios are often classified as...
“value” stocks, while stocks with high price-to-earnings or price-to-book ratios are often called “growth” stocks. Research has also shown that value stocks tend to outperform growth stocks over the long term. Furthermore, small value stocks tend to do better than large value stocks.

Figure 3 shows the cumulative returns for the Barra/S&P 500 Growth index and the Barra/S&P 500 Value index for the period of January 1, 1975, through June 30, 2003. Over this time, the economy has seen three full recessionary periods, as well as the tail end of one that is still underway.

Value stocks generally outperform growth stocks, with one exception (usually) being at the tail end of a bull market, as illustrated in Figure 3. For much of the period, value stocks outperformed growth stocks, and the gap between the two styles widened until the middle 1990s—when the markets were in the thralls of one of the biggest bull runs in history. At the peak of the bull market, the Barra/S&P 500 Growth index closed the gap and surpassed the cumulative return in the value index in March of 2000.

In the aftermath of the stock market bubble, value stocks have fared better than growth stocks, with smaller value stocks performing much better than large value stocks: The Barra/S&P MidCap 400 Value index has returned 7.1% since March 1, 2003, while the SmallCap 600 Value index has returned 5.7% and the S&P 500 Value index has posted –19.4%.

CONCLUSION

There are ways in which you can structure your investment portfolio to benefit from the ups and downs in the economy or, more exactly, from predicting the turning points in the business cycle. However, success may be hard-won, as timing the economy is a difficult task and is something that most professional economists cannot accomplish.

No matter what your view of the economy, it is important to maintain a diversified portfolio. While the utility sector may outperform other sectors during specific stages of the business cycle, holding a portfolio that is exclusively utility stocks is not a prudent move. Only if you were 100% accurate at timing the business cycle would such a strategy prove profitable. Since we have shown that it is virtually impossible to accurately time the business cycle, a more prudent investment strategy would be to diversify your portfolio across sectors.

The best policy is to make minor portfolio shifts in anticipation of longer-term market and economic trends.

Postscript

As this article went to press, the National Bureau of Economic Research declared on July 17, 2003, that the 2001 recession ended in November of that same year. This recessionary period was one of the shortest of the post-war era at just eight months. However, taking 20 months to declare this recessionary trough was the second-longest amount of time since 1980.

In declaring the end of the 2001 recession, the NBER revised its complex formulation to include GDP in its analysis along with employment, real income, industrial production, and wholesale-retail sales.

However, saying that a recession is over does not necessarily make it so. While GDP has been growing since the fourth quarter of 2001, unemployment recently hit a nine-year high and the stock market, a leading economic indicator, is just now showing signs of a rebound after three years of declines. This only serves to reinforce the fact that economic recoveries are difficult to forecast and can be uncooperative.