

Chapter Two

FINANCIAL AND ECONOMIC INDICATORS

1. Introduction

In Chapter One we discussed the concept of risk and the importance of protecting a portfolio from losses. Managing your investment risk should be your primary objective. When we look at games of strategy, like poker, we develop an investment strategy centered on flexibility and sensible risk-taking. As poker players (investors), we plan our bets, based on the odds of winning, and change our bet (investment) in each asset based on the odds of making money.

One objective of this book is to develop an investment process based on investing in the strongest sectors of the financial markets. Our process is driven by changes in economic conditions and the corresponding reaction in the price of assets.

As the economy moves from a period of fast growth to slower growth, asset prices change to reflect evolving economic conditions. As we understand how and why prices change, we develop our investment strategy. The investment strategy is the keystone of the investment process.

In Chapter Two, we review the forces acting on the economy and their relationships. The economic indicators are introduced and divided into three categories. A detailed discussion of the indicators and how they interact can be found in my book *Profiting in Bull or Bear Markets*. In contrast, this text is updated and based on recent experience with these indicators and discusses only the most reliable ones.

The indicators are simple and useable by a novice investor. These methods and tools forecast the direction of the markets and to recognize risk. The indicators provide the confidence to distinguish the useful investment advice from the useless. Our process is similar to a doctor who orders tests on a patient, analyzes the results, and diagnoses the current condition of the patient.

2. Economic and financial indicators

Years of research show how the economy and financial markets interact with cause-and-effect relationships. Business and financial cycles last 5 to 7 years. Our indicators help to select the stock sectors to buy and to avoid as the business and financial cycles go through their phases.

The majority of economic indicators available to investors fall into one of these categories: leading, coincident, and lagging indicators. The main thread tying them

together is their lead-lag relationship and feedback feature. The feedback between these indicators dampens the cycles and helps predict the future of the economic and financial system. For instance, when an economy expands at an above average growth rate, workers expect a rise in personal income. Consumers borrow more money to purchase items they want. More borrowed money raises the level of interest rates. Higher interest rates cause consumers to borrow and buy less. Producers cut production and the economy slows to a more sustainable growth rate. The feedback created by rising interest rates reduces the appetite of consumers for goods and maintains the economy within balanced growth ranges. This is a simplified example. In a complex economic system, other feedbacks exist.

We call the vertical line separating each phase of the business and financial cycle a configuration. The configuration identifies the turning point (top or bottom) of each cycle (Fig. 2.1). As we move from one turning point to another, market prices move from one extreme to another. Investment risk changes as the business and financial cycles move from one configuration to the next, thus creating investment opportunities. When the configuration favors a specific asset, we assume a higher level of confidence and buy the specified asset.

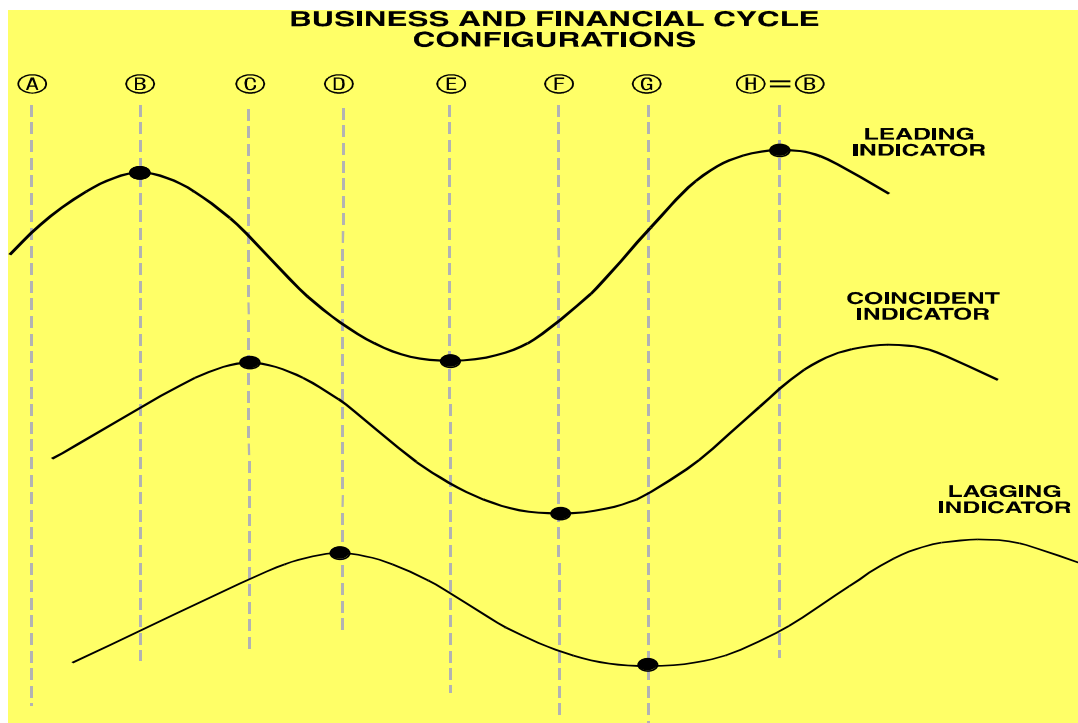


Fig. 2.1. The above graphs show the relationship between leading, coincident, and lagging indicators. Each turning point or configuration is a unique position in the business and financial cycle. By knowing where we are in the cycle, we can develop a strategy to profit from the current trend of the cycle.

The turning points of the leading indicators lead the turning points of the coincident indicators by months. The lead-time is about 12-24 months. The coincident indicators reflect what is happening in the economy.

The growth in monetary aggregates is a leading indicator. It anticipates changes in the financial markets and the economy. A peak in the growth of the money supply leads a peak in the growth of the economy (coincident indicators) by about 1-2 years. A peak in the growth of the economy (coincident indicators) leads a peak in interest rates, growth in commodity prices, and inflation (lagging indicators) by 12-24 months.

A decline in the lagging indicators is followed quickly, usually less than 6 months, by a rise in the growth of monetary aggregates and the dollar (leading indicators). After about 12-24 months from the trough in the monetary aggregates, the economy (coincident indicators) strengthens. A trough in the growth of the economy (coincident indicator) leads a rise in inflation, the growth of commodity prices, and interest rates (lagging indicators) by about 1-2 years.

The rise in the lagging indicators generates important feedbacks and requires a shift in portfolio strategy. For instance, a trough in interest rates, in the growth of commodity prices, and inflation is followed, usually by less than 6 months, by a peak in stock prices, growth in monetary aggregates, and the dollar. Then, the cycle is in position to repeat the pattern.

An understanding of the above relationships helped avoid the debacle of the stock market price bubble in 2000 (as discussed in detail in 1999 in my advisory *The Peter Dag Portfolio Strategy and Management*). In 1997, monetary aggregates (leading indicators) began to rise more rapidly. The Fed encouraged the rise. The Fed was responding to a credit and currency crises in the banking system. In late 1998, about 16 months later, the economy (coincident indicators) grew more rapidly. About a year later, in 1999, short-term interest rates (lagging indicators) began to rise accompanied by higher growth in commodity prices.

The rise in short-term interest rates caused the growth of the money supply to decline in mid 1999. This decline was bound to last for many months. Since stock prices and the growth of the money supply have the same turning points, the conclusion was clear – stock prices were very close to a major downturn. This was a prime time to begin a more conservative investment strategy.

Two important feedbacks exist. The first is the decline in the lagging indicators, followed by a rise in stock prices, the dollar, and growth in monetary aggregates. The second is the rise in the lagging indicators, which precedes a peak in the stock prices, in the growth of monetary aggregates, and the dollar. The action of the lagging indicators is a valuable tool to assess financial risk (Fig. 2.1).

The important indicators are easy to track.

- a. *The leading indicators* are the growth of the money supply, stock prices, slope of the yield curve, and the dollar.

- b. *The coincident indicators* reflect the intensity of economic activity. Employment, production, housing activity, retail sales, car sales, and purchasing manager indexes are the most useful ones. They are reported in the news as they happen and they mirror current business activity.
- c. *The lagging indicators* are the most crucial gauges. The significant ones are short-term interest rates, bond yields, inflation at the producer and at the consumer level, and growth in commodities

The level of real short-term interest rate (the difference between short-term interest rates and the inflation rate) is a proven measure to assess monetary policy. High real short-term interest rates are associated with periods of declining inflation rates, higher bond prices and lower bond yields, and lower precious metal stock prices, as occurred from 1985 to 2000 (Fig. 2.2). Low real interest rates imply periods of rising inflation rates, lower bond prices and higher bond yields, and higher precious-metal stock prices, and a more volatile business cycle. For a detailed discussion, see Chapter 6 and 9 of my book *Profiting in Bull or Bear Markets*.

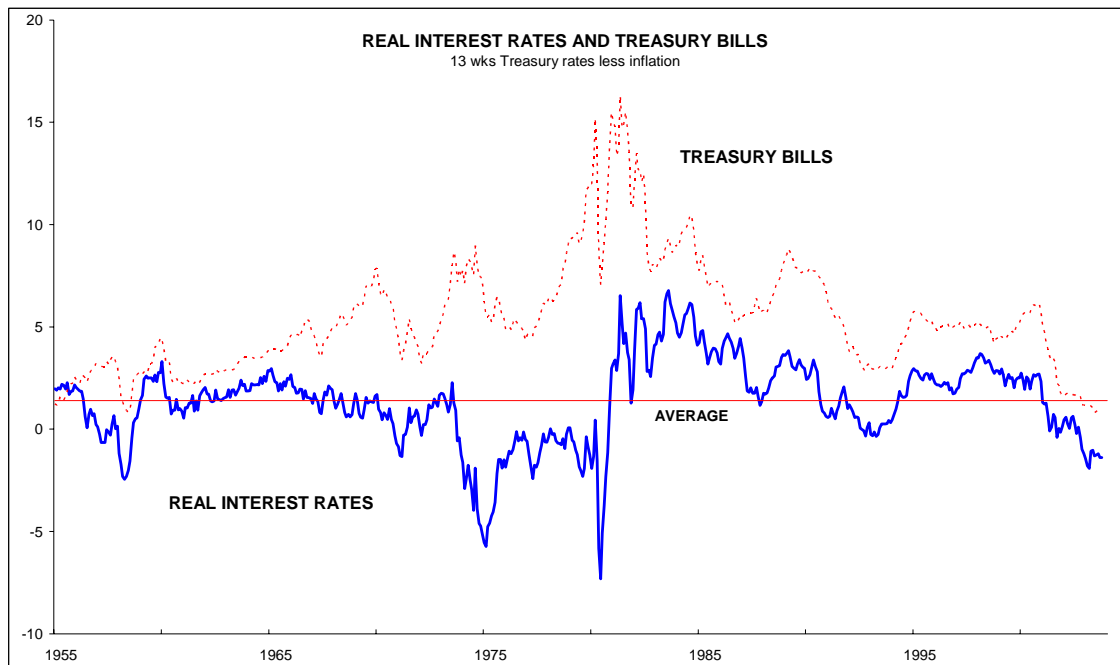


Fig. 2.2. The level of real short-term interest rates is closely related to inflationary pressures. Inflation rises when real interest rates are below their historical average. Inflation declines when real interest rates are above the historical average.

The degree of financial and economic risk becomes clear when we understand the spread between BAA corporate bond rates and 10-year Treasury rates. When the spread is close to the top of the historical range, the level of credit risk is high. When the spread is at high levels above the historical range, as after 1999, credit risk is unusually high and corporations experience high debt relative to assets (Fig. 2.3). The outcome is volatility in the financial markets, high uncertainty about the future, and slow economic growth. Business is unable to borrow and invest due to abnormally high

corporate long-term interest rates relative to Treasury yields. The stock market bubble imploded when this spread was at historically high levels.

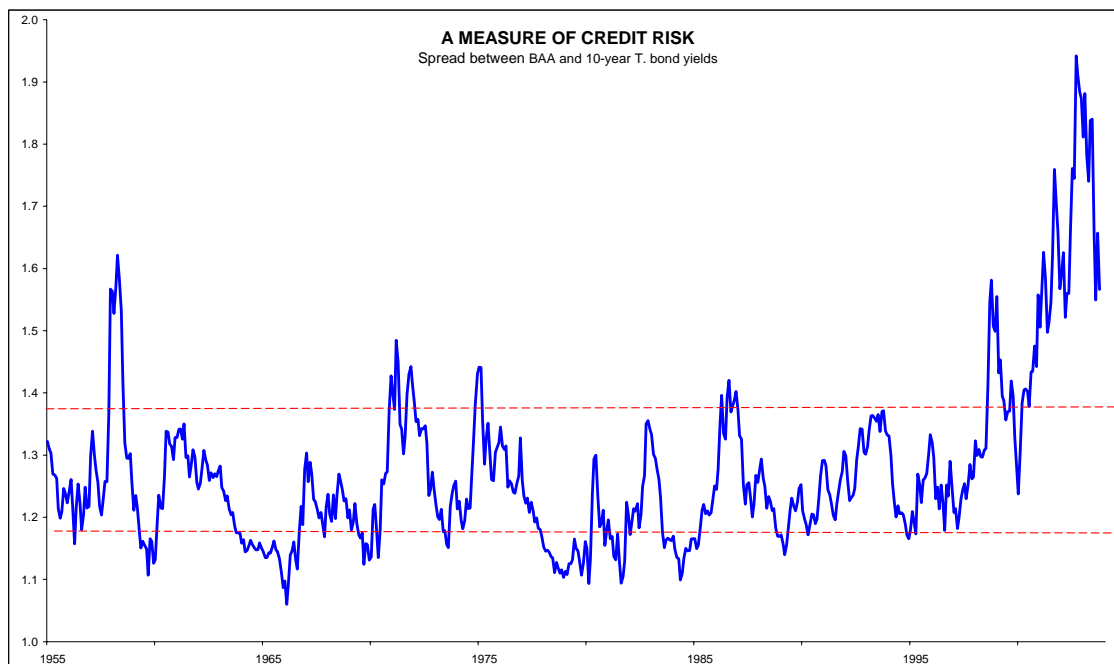


Fig. 2.3. The rise in spreads between lower grade (BAA) bond yields and 10-year Treasury bond yields reflects increased credit risk in the financial markets. Large spreads represent high risk for the financial markets. Small spreads reflect low risk for the financial markets.

3. Leading indicators

The leading indicators provide information on the future trend of the economy. When the leading indicators begin to grow at a slower pace, the economy is likely to grow at a slower pace within 12-24 months. As the leading indicators increase the pace of their growth, the economy is likely to grow at a faster pace within 12-24 months. The following leading indicators have been selected for their reliability to predict turning points in the economy based on many years of experience in using them.

The money supply is the most important of the leading indicators. Sadly, money supply is widely misunderstood. Money supply is measured in more than one way. Sometimes, however, because of technological innovation or changes in the banking system, some measures of money supply get distorted. So, we follow many measures and expect distortion because of temporary factors.

There are four main measures of money supply. Money supply is a measure of how much liquidity is in the economy. M1 is a narrow definition of the money supply;

M2 is a broad definition of the money supply; and M3 is an even broader definition. We commonly use MZM.

Money supply - M1: M1 consists of currency, travelers' checks of non-bank issuers, and demand deposits at all commercial banks.

Money supply - M2: M2 is M1 plus savings deposits including money market savings accounts, small denomination time deposits, and balances in retail money market funds.

Real money supply - M2: This leading indicator is computed by subtracting the rate of inflation in consumer prices from the growth in the money supply M2.

Money supply - M3: The third measure of money supply is M3, which consists of M2 plus large denomination time deposits in the amount of \$100,000 or more, balances in institutional money funds, and Eurodollars held by U.S. residents in foreign banks.

Money supply - MZM: MZM is money with zero maturity (Fig. 2.4). It is defined as M2 plus institutional money funds, minus total small denomination time deposits.

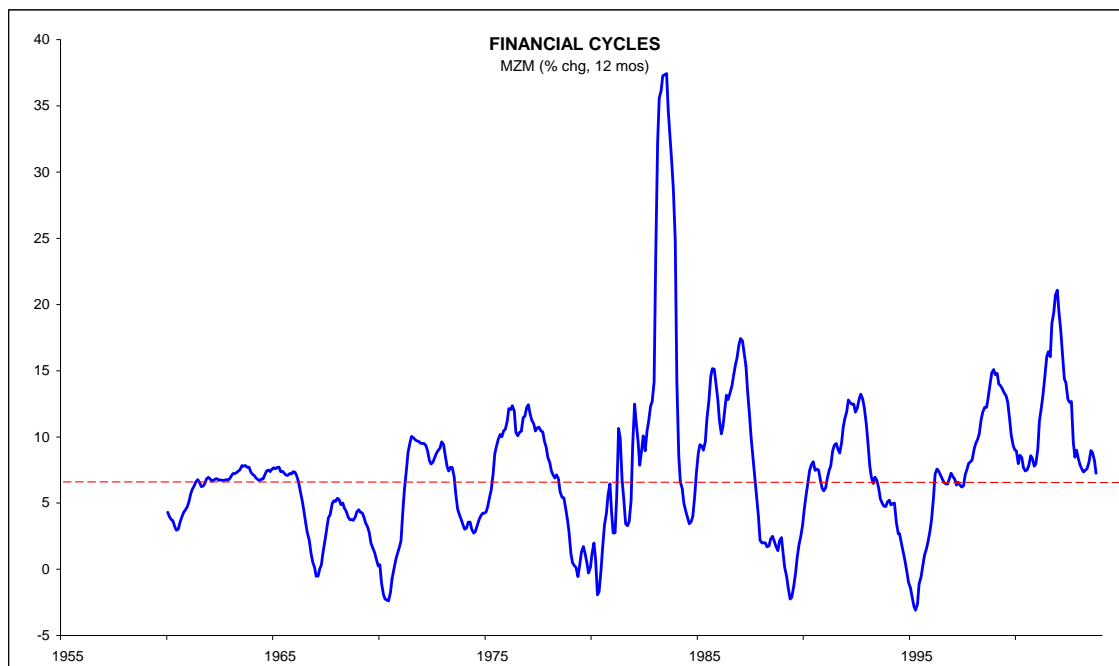


Fig. 2.4. The change in the growth of MZM is closely associated with the change in the dollar, yield curve, and stock prices. MZM leads turning points in the growth of the economy by about 12-24 months. Cycles of the growth of the money supply last about 5-7 years.

The following is an example of how we can use the growth of the money supply. Let's assume that MZM begins to grow at a faster pace. Inevitably, the growth of MZM (leading indicator) is followed by a stronger economy (coincident indicator) in about 12-24 months. Short-term interest rates (lagging indicator) begin to rise after 12-24

months from the trough of the coincident indicators. The rise in short-term interest rates (lagging indicator) reduces the demand for money and shrinks the growth of MZM and stock prices (leading indicators) after 3-6 months. After 12-24 months from the peak in the growth of MZM (leading indicator), the growth of the economy (coincident indicator) declines and causes short-term interest rates (lagging indicator) to decline after 12-24 months from the peak in the coincident indicators. Lower short-term interest rates (lagging indicator) causes more demand for money after less than 6 months causing the growth in the money supply MZM and stock prices (leading indicator) to rise. And, the cycle repeats.

The growth of the money supply is closely related to the growth of the economy and of the trend of the stock market. In 1992, money supply growth peaked and then declined until 1994. The growth in industrial production peaked in late 1994 with a lag of two years. Money supply growth bottomed in 1995. In 1996, a pick-up in the growth of industrial production took place due to the 1995-1996 monetary expansion with a lag of one year from the bottom in the growth of the money supply. The bottom of the growth in the money supply in 1995 was accompanied by a surge in stock prices until 2000. These examples suggest that money supply growth leads the growth of the economy by 12-24 months, and is associated closely with stock prices.

Strong growth in the money supply implies a lot of liquidity is being injected into the economy and ample credit is available to business, investors, and consumers. As this liquidity moves through the economy, more and more people use the credit. Eventually they will spend it and the economy strengthens. However, when the money supply starts to slow down, the stream of credit to business, investors, and consumers slows. Thus, the economy gradually begins to grow at a slower pace as less money is offered and less money is spent. Historical data show a financial cycle, defined as the fluctuation in the growth of the money supply, is about 5-7 years from trough to trough.

The long-term growth rate of the money supply is about 6-7%. The 6-7% growth rate is very similar to the capital appreciation of stock prices, the growth in earnings per share, or the growth in personal income. If the growth of the money supply is so important, why are its growth patterns highly volatile? We know volatile growth patterns cause sharp fluctuations in stock prices, business activity, employment, and income. We know the Fed has the tools to control the money supply (see Chapter 7 of my book *Profiting in Bull or Bear Markets*). Why doesn't the Fed smooth the fluctuations? Sadly, the answer is: they can't! The main function of the Fed is to protect the banking system by injecting liquidity during phases of increasing financial risk.

The dollar is another important leading indicator. The Fed publishes a daily measure of the value of the dollar against the major currencies (Fig. 2.5). The turning points of the dollar are very close to the turning points of other leading indicators. The dollar reflects the demand by foreign investors. If our monetary and political conditions are favorable and support a stronger economy, foreign investors buy dollars to invest in the US. The demand for our currency drives the value of the dollar up. The dollar, like the growth of the money supply, rises in anticipation of improving business activity.

Frequently, the media suggests a currency is controlled. This is a common myth. A currency reflects the difference in inflation, productivity, and government

policies of two countries. A government can control a currency for a very limited time by fixing its value when exchanged with another currency. If the fixed value is far different from the market value, speculators will take advantage of the imbalance and eventually drive a currency up or down to its market value. History is full of examples of a currency crisis caused by government control of their currency. Eventually, the collapse of the currency is the final verdict of the market. A currency, like all other commodity prices, such as crude oil or short-term interest rates, cannot be controlled for a protracted period.

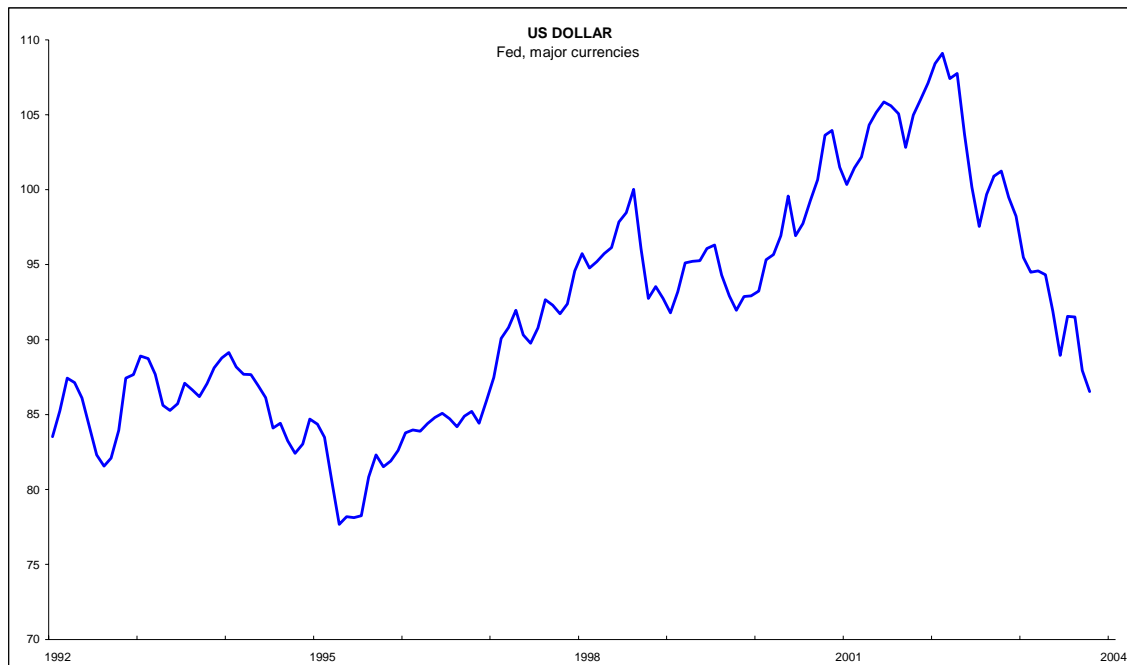


Fig. 2.5. The rise of the dollar points to good economic conditions. A weak dollar typically implies uncertain economic and stock market conditions.

The slope of the yield curve (leading indicator) helps to confirm the trends in the growth of the money supply and the dollar. The slope of the yield curve is computed by subtracting the yield on 13-week Treasury bills from the yield on the 10-year Treasury bond. If this difference increases, the yield curve becomes steeper. When the difference decreases, the yield curve flattens. The yield curve is inverted when the difference between the rate on 13-week Treasury bills and the yield on 10-year Treasury bond is negative.

The relative movements of short-term and long-term interest rates determine the shape of the yield curve with short-term interest rates moving more rapidly than long-term interest rates. When the yield curve steepens, the Fed is loosening credit and monetary aggregates rise more rapidly as short-term interest rates decline. On the other hand, when short-term interest rates rise, the yield curve flattens. This is a sign the Fed is tightening credit, trying to reign in an overheating economy and keeping inflation under control. During such times the growth of the money supply is also declining. An extreme shape of the yield curve is when the shape is flat or inverted. This happens

when the yield on 13-week Treasury bills is the same as or higher than the yield on 10-year Treasury bonds. This shape is typical of tight credit conditions and indicates a future recession of above average intensity.

The shape of the yield curve reflects monetary conditions. A steep yield curve encourages lenders to lend. Lenders, like banks, borrow from consumers at low levels of short-term interest rates and lend at a much higher long-term interest rates. When the yield curve is steep, lenders want to lend and liquidity in the system increases and stimulates the economy. In contrast, when the yield curve flattens (due to the small difference between short-term and long-term interest rates), the incentive to lend is less. Then, liquidity in the system decreases and the economy is bound to slow down.

The growth of the stock market is a reliable leading indicator in addition to the ones mentioned above. By stock market we mean the action of the S&P 500 index. There are many stock market indexes. They are all helpful, but some indexes represent a small group of companies. The S&P 500 index represents the price performance of the 500 largest companies listed on the NYSE. The stock market is a leading indicator of the economy as it closely relates to the growth in liquidity. An increase in the growth of the money supply reflects an increase in liquidity, which benefits stock prices. In contrast, when credit conditions tighten and the growth of the money supply slows down, stocks make little progress.

Although *bond yield spreads* could be considered a leading indicator, their main function is to measure credit risk (Fig. 2.3). Yield spreads are measured as the ratio between BAA bond yields (lower grade bonds) and 10-year Treasury bond yields. When the money supply grows slowly, credit spreads are low. When liquidity grows at a faster pace, credit spreads rise. When spreads rise to a high level, they signal considerable financial risk. It signals that credit conditions are likely to deteriorate with a negative impact on sectors of the financial markets and the economy. In 2000, credit spreads rose to all time highs, pointing correctly to high risk for the economy and the stock market.

It is important to follow more than one leading indicator because they do not act uniformly. At the turning points in a cycle, indicators do not turn at the same time. We follow all of them to confirm the odds of accurately calling a major turning point. In my experience, MZM is the most reliable leading indicator.

4. Coincident indicators

The coincident indicators have three purposes.

1. Indicate if economic growth is rising or declining.
2. Indicate if growth is above or below average.
3. Indicate when economic growth reaches a peak or a bottom.

The leading indicators anticipate trends of the coincident indicators (economy). When the leading indicators begin to decline, after 12-24 months, we predict a decline in the coincident indicators. When the leading indicators begin to rise, we expect

growth in the coincident indicators to increase after 12-24 months. Similarly, changes in the trend of the coincident indicators (economy) cause changes in the trend of the lagging indicators.

The Institute of Supply Management (ISM) index reflect trends in the manufacturing and non-manufacturing sector. Their index oscillates around 50%. Business activity improves when the index rises and moves above 50%. But, business activity shrinks when the index falls and moves below 50%. The economy operates above potential when the index rises decisively above 50% (Fig. 2.6).

The ISM index of vendor performance measures the percent of purchasing managers reporting slower deliveries. This index is interpreted the same as the ISM index, is less volatile, and is easier to interpret.

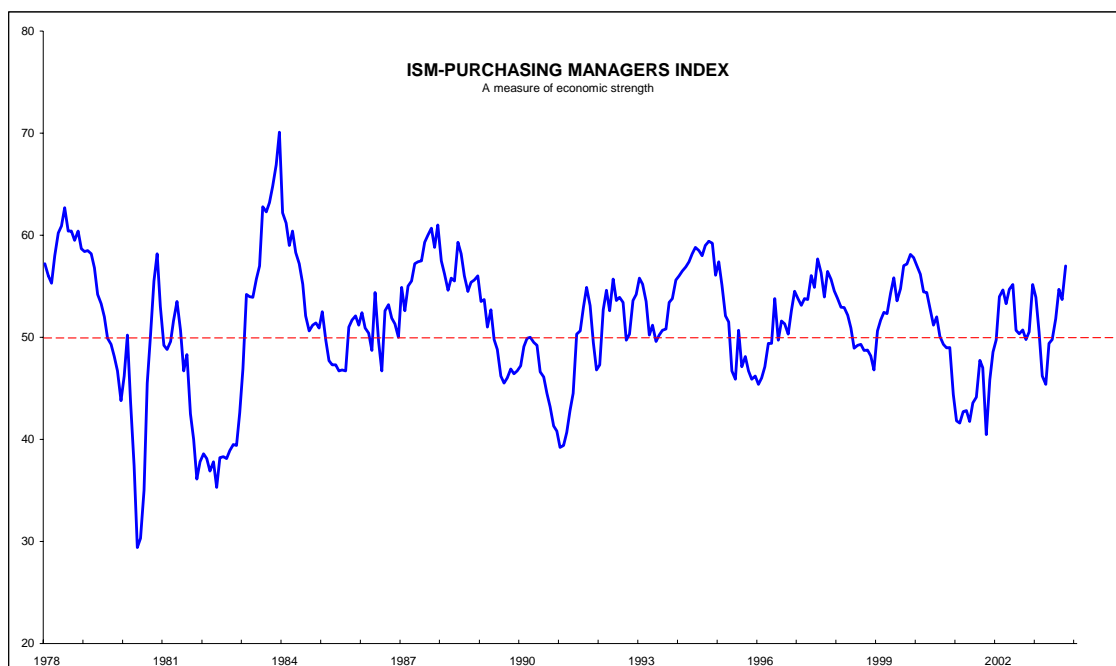


Fig. 2.6. The ISM indexes show the pattern of the business cycle. The peaks and troughs of the indexes follow by about 12-24 months the peaks and troughs of the leading indicators.

The credit manager index is similar to the ISM report. The credit manager index shows the percent of credit managers who report improving credit conditions. The pattern of the index moves around 50%. The *credit manager index* reports the first day of the month. When the *credit manager index* declines, credit conditions are worse. Credit conditions improve when it rises.

The index of industrial production is released monthly by the Fed and provides a picture of trends in the output of the industrial sector. The change in this index correlates to the ISM indexes and the other coincident indicators (Fig. 2.7).

The Bureau of Labor Statistics reports on the employment situation on the first Friday of each month. It gives us a glimpse of the economy during the previous month.

Cars sales (units sold) reflect the trend of a very important sector of our U.S. economy. *Car sales* are reported in the first few days of the month and give a timely glimpse of trends in the manufacturing sector. When *car sales* are flat or decline, the economy is losing steam.

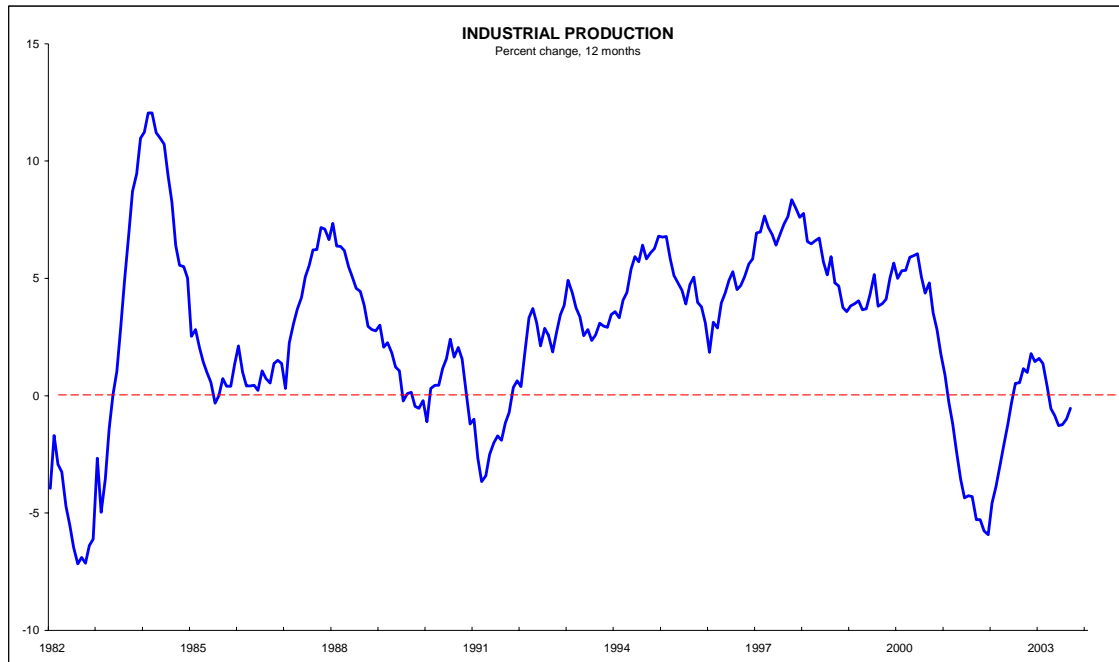


Fig. 2.7. The growth in the *index of industrial production* is closely related to the ISM indexes. The peaks and troughs in the growth of industrial production follow by about 12-24 months the turning points in the leading indicators.

Housing starts are a crucial sector in the economy. Its trends have a significant impact on REITs and homebuilding stock sectors.

For a more complete list of coincident indicators, see *Profiting in Bull or Bear Markets*.

5. Lagging indicators

The lagging indicators lag the trends in economic activity. For instance, inflation rises after 12-24 months from a cyclical trough of the economy. The intensity of inflation may be different, depending on the level of real short-term interest rates. But, after many months of strong economic activity, we should expect inflation to rise. During this phase, business activity grows above its long-term average pace of about 3%. Inflation peaks after 12-24 months from a peak of the economy. The duration of the lead-lag time depends on the strength of the economy and the intensity of inflation.

Periods of high inflation and interest rates are associated with volatile business cycles as in the 1970s. The volatility of the business cycles diminishes when inflation and interest rates are close to 2-5%.

Inflation measures price pressure at the consumer and producer level. For the consumer, rising inflation means less buying power. For business, rising inflation means higher overall costs. For these reasons rising inflation is a negative factor for the economic system. Consumers scale down their purchases. Business cuts costs. Thus, economic activity is dampened.

The *rate on 13-week Treasury bills* is the price of money when the government borrows for 13 weeks. The *rate on 13-week Treasury bills* tells us the trend of short-term interest rates. Short-term interest rates act like the other lagging indicators (Fig. 2.8).

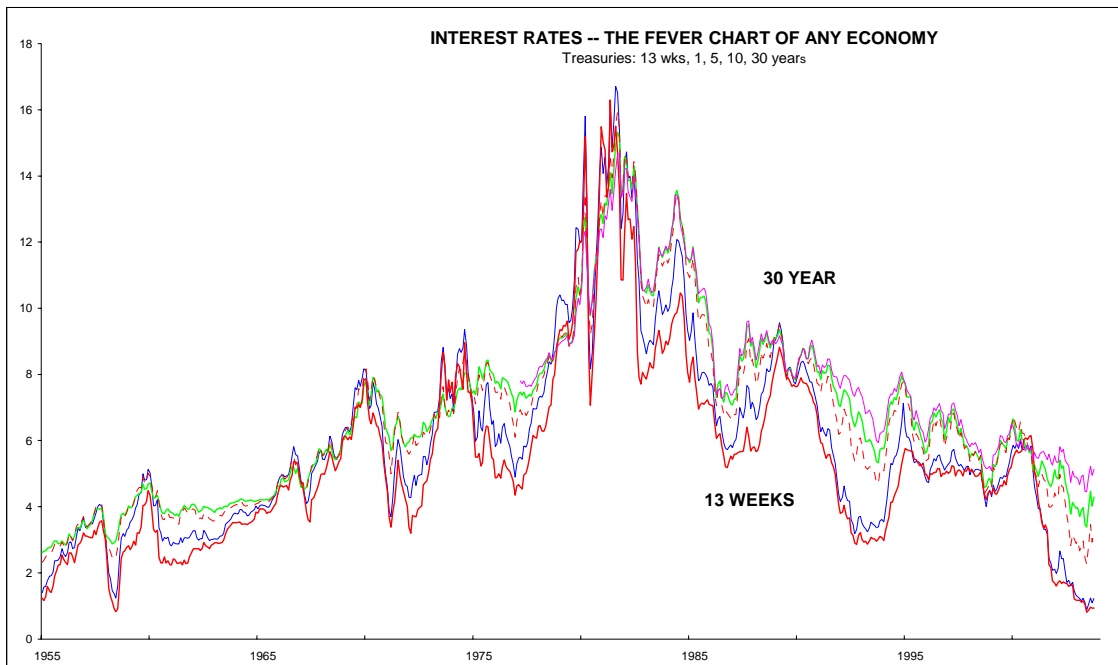


Fig. 2.8. Interest rates represent the fever chart of any economy. Interest rates close to 4-5% indicate a sound economy. As interest rates rise or decline from 4-5%, they signal poor economic conditions. When interest rates rise, they reflect higher inflation accompanied by high volatility in the business cycle and the financial markets. Examples: The U.S, and Europe in the 1970s. When interest rates drop below 4-5%, they reflect the risk of deflation and slow economic growth. Examples: The US in the 1930s and after 2000, and Japan after 1990.

The *Change in Commodity Prices* reflect the growth of commodity indexes like the CRB raw industrial materials (spot prices) or the CRB futures index. Commodity prices are more volatile than inflation. Commodity prices reflect price pressures in real time. Typically, cartels are accused of raising the price of a commodity they control.

This is not accurate. Commodities rise because of demand and demand is unleashed by economic conditions.

Bond yields of various qualities (Treasuries, AAA, and BAA bonds) are also excellent lagging indicators. Their trend is mostly influenced by inflation.

6. Conclusions

Financial success depends on the investment process. The need for a disciplined approach becomes apparent when markets go through a long and deep period of volatility as in the 1970s and after 2000. What to buy or sell, when to buy or sell, why to buy or sell, and how much to buy or sell are important issues. These issues need resolution before beginning an investment program.

The above indicators are used to establish economic and financial scenarios needed to manage risk. These scenarios help to recognize the level of risk and play a major role in developing investment strategies.

The most important indicators to get started

1. Leading

- Change in the money supply
- Yield curve
- US dollar
- Stock market

2. Coincident indicators

- Change in industrial production
- ISM index and ISM vendor deliveries index
- Change in orders for durable goods
- Change in total employment

3. Lagging indicators

- Change in consumer prices and producer prices
- Change in the CRB futures index and CRB raw materials index (spot)
- Short-term interest rates
- Bond yields (10 year Treasury, AAA, and BAA)

An investment strategy is needed because forecasts, by definition, are uncertain. A strategy helps us when markets do not meet our expectations. An intelligent strategy

protects our capital in the worst cases. Strategies based on formulas eventually end in painful failure. For this reason a process to manage risk is vitally important. A continual review of markets, their direction, and the performance of our investments provide essential clues to the wisdom of our strategy. If the performance is dismal, change quickly.

How do we proceed? We need to understand what occurs in the business and financial world. By tracking economic and financial indicators, we use the necessary tools to find how the financial community plays the game. This chapter lists the important indicators needed to follow the trend of the business and financial cycles. We do not need to use an exhaustive list of all available indicators. We do need to use the reliable ones as I have shared above with you.

The relationships between the leading, coincident, and lagging indicators provide a logical framework to understand the pattern of business activity and the valuable investment assets. The turning points of these indicators are examined in detail in the next chapter.

Example of how indicators relate

THE INVENTORY CYCLE AND YOUR INVESTMENTS

1. The Fed allows liquidity to grow more rapidly to meet increasing credit demand.
2. The increase in liquidity positively impacts stock prices.
3. Because of the increased liquidity, consumers buy more goods and services. Sales improve.
4. Because of strong sales, manufacturing increases production to build up inventories to meet sales.
5. To increase inventories, business borrows short-term to finance enlarged inventories.
6. The outcome is higher short-term interest rates due to higher demand for money.
7. The rise in short-term interest rates eventually discourages consumers from making further purchases.
8. Sales slow down and business borrows less as the outlook becomes more uncertain.
9. Liquidity, which measures credit expansion, begins to decline.
10. The stock market sputters due to slower growth in liquidity and rising short-term interest rates.
11. Eventually business recognizes inventories are rising too rapidly relative to sales
12. Production is cut to reduce inventories. Eventually inventories decline in line with sales.
13. Short-term funding of inventories drop and the slow demand for money presses down on short-term interest rates.
14. The decline in short-term interest rates encourages business and consumers to borrow and spend more.
15. The Fed lets the money supply accelerate to match the higher demand for credit.
16. Stock prices respond favorably as short-term interest rates decline and liquidity grows more rapidly.