Chapter Seventeen

Macroeconomic and Industry Analysis

Macroeconomic and Industry Analysis

- The intrinsic value of a stock depends on the dividend and earnings that can be expected from the firm.
- This is the heart of fundamental analysis – that is, the analysis of the determinants of value.
- Ultimately, the business success of the firm determines the dividends it can pay to shareholders and the price it will command in the stock market.

Macroeconomic and Industry Analysis

- Because the prospects of the firm are tied to those of the broader economy, fundamental analysis must consider the business environment in which the firm operates.
- Therefore, in analyzing a firm's prospects, it often makes sense to start with the broad economic environment, examining the state of the aggregate economy and even the international economy.
- This chapter treats the broad-based aspects of fundamental analysis – macroeconomic and industry analysis.

The Global Economy
(1 of 2)

- International economy affects various aspects of a firm's prospects
  - Export prospects
  - Price competition it faces from competitors
  - Profits it makes on investments abroad
- Performance in countries and regions can be highly variable
- Harder for businesses to succeed in contracting economies than in expanding ones

The Global Economy
(2 of 2)

- Political uncertainty can pose considerable economic risks
  - Sovereign debt crisis
  - Brexit
- An **exchange rate** is the rate at which domestic currency can be converted into foreign currency
  - In early 2019, it took about 110 Japanese yen to purchase 1 U.S. dollar
    - Exchange rate is $0.0091 per yen

The Domestic Macroeconomy

- Stock prices tend to rise with earnings
- P/E ratios tend to be in the range of 12 to 25
- Forecasting the performance of the broad market begins with an assessment of the economy as a whole

S&P 500 Index versus Earnings Per Share

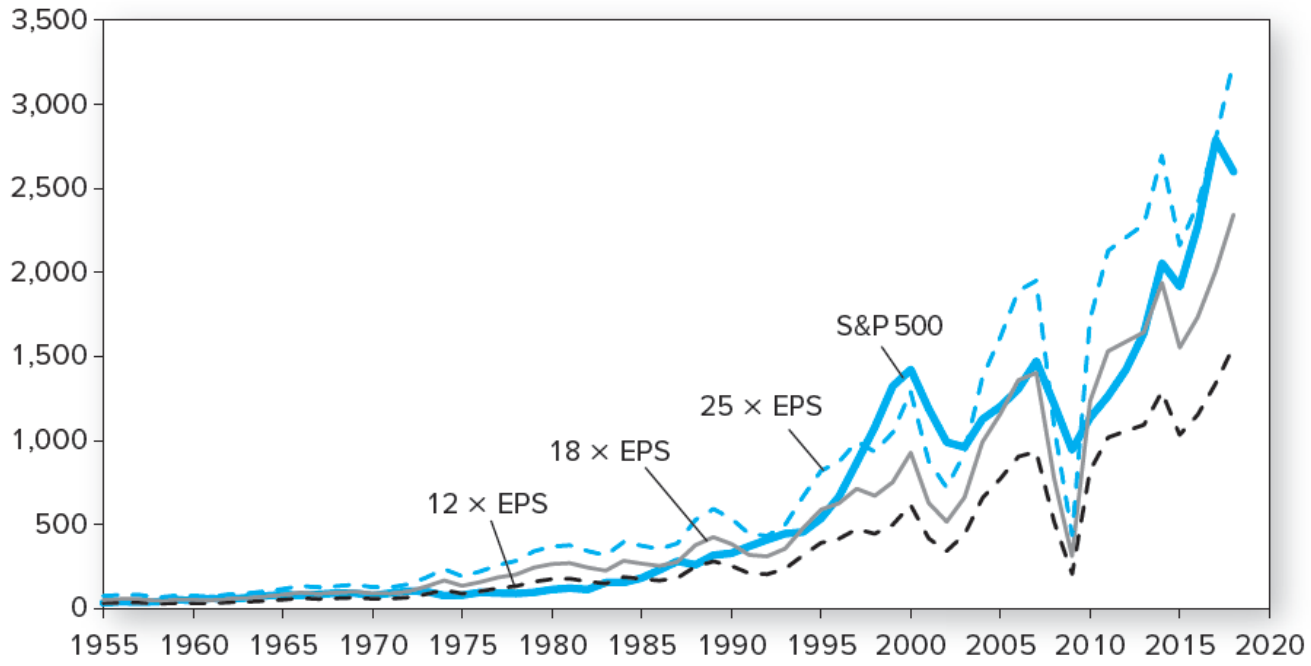


Figure 17.2 S&P 500 index versus earnings per share

Source: Authors' calculations using data from the St. Louis Federal Reserve Bank database (FRED).

The Domestic Macroeconomy: Key Economic Indicators

- **Gross domestic product (GDP)**
  - The measure of the economy's total production of goods and services.
  - Rapidly growing GDP indicates an expanding economy with ample opportunity for a firm to increase sales

The Domestic Macroeconomy: Key Economic Indicators

- **Gross domestic product (GDP)**
- Employment
  - Measured via **unemployment rate,** the percentage of the labor force yet to find work.
  - The unemployment rate measures the extent to which the economy is operating at full capacity.

The Domestic Macroeconomy: Key Economic Indicators

- **Gross domestic product (GDP)**
- Employment
  - Measured via **unemployment rate**
- **Inflation**
  - The rate at which the general level of prices rise.
  - High rates of inflation are often associated with 'overheated' economies.
  - The tradeoff between stimulating economies to maintain nearly full employment and not bringing on inflationary pressures is at the heart of many macroeconomic policy disputes.

The Domestic Macroeconomy: Key Economic Indicators

- **Gross domestic product (GDP)**
- Employment
  - Measured via **unemployment rate**
- **Inflation**
- Interest rates
  - Demand for housing and high-priced consumer durables such as automobiles is highly sensitive to interest rates because interest rates affect interest payments.

The Domestic Macroeconomy: Key Economic Indicators

- **Gross domestic product (GDP)**
- Employment
  - Measured via **unemployment rate**
- **Inflation**
- Interest rates
- **Budget deficit**
  - Difference between government spending and revenues.

The Domestic Macroeconomy: Key Economic Indicators

- **Gross domestic product (GDP)**
- Employment
  - Measured via **unemployment rate**
- **Inflation**
- Interest rates
- **Budget deficit**
- Sentiment
  - Consumers' and producers' optimism/pessimism concerning the economy

Demand and Supply Shocks

- A useful way to organize your analysis of the factors that might influence the macroeconomy is to classify any impact as a supply or demand shock.

Demand and Supply Shocks

Demand shock

- An event that affects demand for goods and services in the economy
- Positive demand shocks
  - Reductions in tax rates
  - Increases in the money supply
  - Increases in government spending
  - Increases in foreign export demand

Supply shock

- An event that influences production capacity and costs in the economy
- Examples
  - Changes in price of energy
  - Freezes, flood, or droughts that might destroy crops
  - Changes in educational level of an economy's workforce

Federal Government Policy

- Demand-side policy has been of primary interest for much of postwar history
  - Focus on increasing demand for goods/services
    - E.g., government spending, taxes, and monetary policy
- Supply-side economics has been gaining attention since the 1980s
  - Focus on enhancing productive capacity of the economy
    - E.g., national policies on education, infrastructure, and research and development

Fiscal Policy
(1 of 2)

- **Fiscal policy** is the use of government spending and taxation for the specific purpose of stabilizing the economy
  - Demand-side management
  - Most direct way to either stimulate or slow the economy

- Formulation of fiscal policy is often a slow, cumbersome political process

Fiscal Policy
(2 of 2)

- Net impact of government fiscal policy is summarized by the government's budget deficit or surplus

- Deficit means the government is spending more than it is taking in by way of taxes
  - Net effect is to increase the demand for goods (via spending) by more than it reduces the demand for goods (via taxes), thereby stimulating the economy

Monetary Policy
(1 of 2)

- Actions taken by the Board of Governors of the Federal Reserve System to influence the money supply or interest rates is referred to as **monetary policy**
  - Demand-side policy
  - Increasing the money supply lowers short-term interest rates, which encourages investment and consumption demand
- Less immediate effect than fiscal policy

Monetary Policy
(2 of 2)

- Tools of monetary policy
  - Open market operations
    - Fed buys/sells bonds for its own account
  - Discount rate
    - Interest rate the Fed charges banks on short-term loans
    - Reductions in discount rate signal a more expansionary monetary policy
  - Reserve requirements
    - Lowering requirements allows banks to make more loans with each dollar of deposits and stimulates the economy by increasing the effective money supply

Supply-Side Policies

- Goal is to create an environment in which workers and owners of capital have the maximum incentive and means to produce and develop goods

- Supply-siders focus on how tax policy can improve incentives to work and invest

The Business Cycle

- We've looked at the tools the government uses to fine-tune the economy, attempting to maintain low unemployment and low inflation.
- Despite these efforts, economies repeatedly seem to pass through good and bad times.
- One determinant of the broad asset allocation decision of many analysts is a forecast of whether the macroeconomy is improving or deteriorating.
- A forecast that differs from the market consensus can have a major impact on investment strategy.

The Business Cycle

- **Business cycle** is the recurring pattern of recession and recovery

- The transition points across cycles are called peaks and troughs
  - The **peak** is the transition from the end of an expansion to the start of a contraction
  - A **trough** occurs at the bottom of a recession just as the economy enters a recovery

The Business Cycle (Continued)

Cyclical Industries

- Above-average sensitivity to the state of the economy
  - E.g., producers of durable goods, such as automobiles
- High betas

Defensive Industries

- Little sensitivity to the business cycle
- Examples
  - Food producers and processors
  - Pharmaceutical firms,
  - Public utilities
- Low betas

Industry Analysis

- Industry analysis is important for the same reason that macroeconomic analysis is.

- Just as we have seen that economic performance can vary widely across countries, performance can vary widely across industries

Return on Equity by Industry

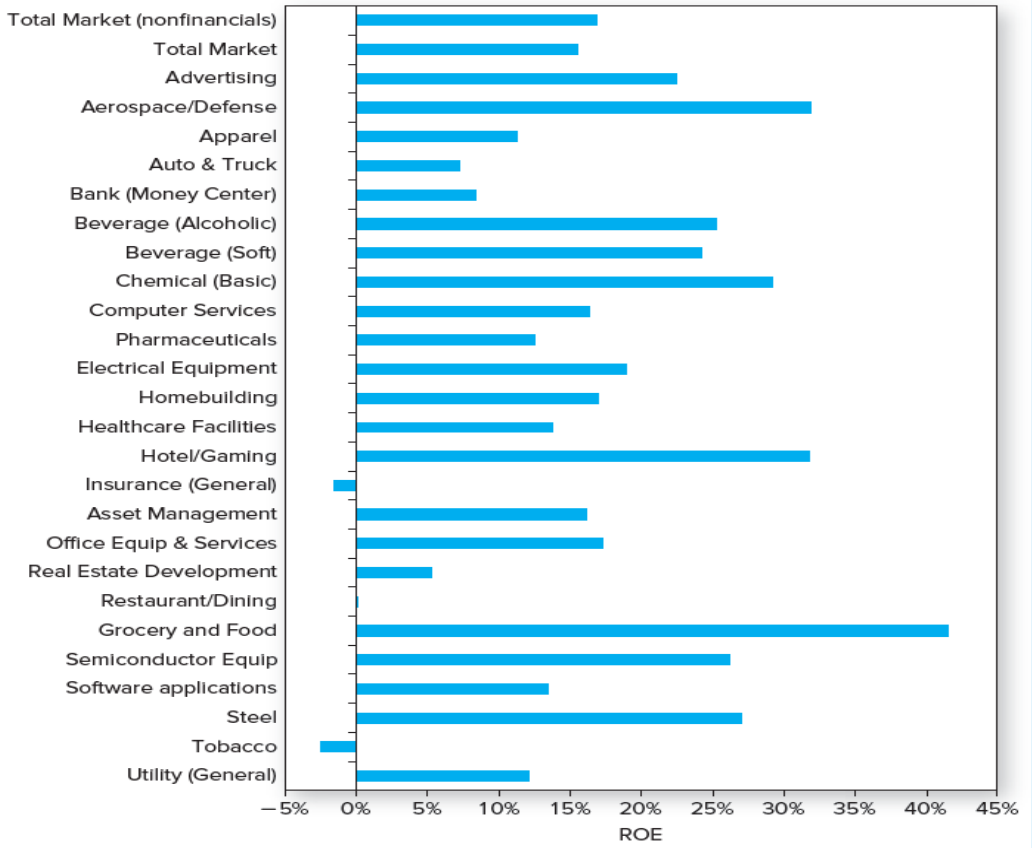


Figure 17.5 Return on equity by industry, 2018

Source: Professor Aswath Damadaran, http://pages.stern.nyu.edu/~adamodar/.

Industry Stock Price Performance

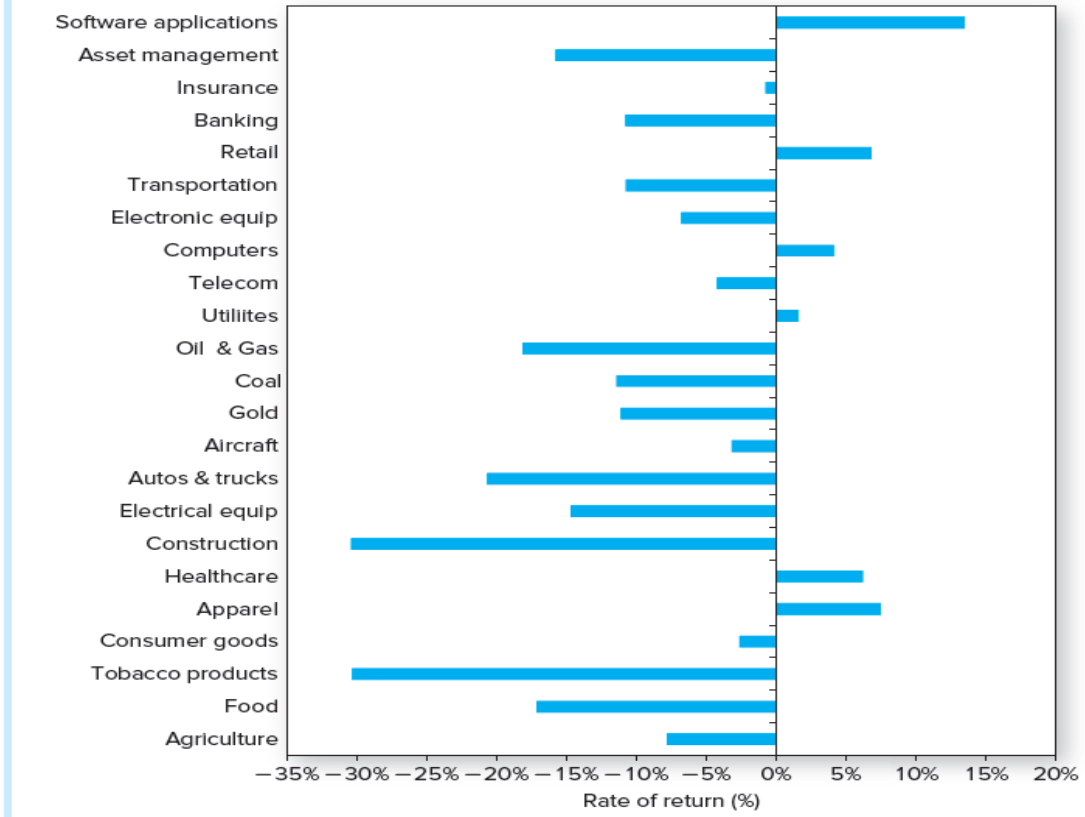


Figure 17.6 Industry stock price performance, 2018

Source: Authors' calculations using data from Prof. Kenneth French's Web site, http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library.

Sensitivity to the Business Cycle
(1 of 3)

- Three factors determine the sensitivity of a firm's earnings to the business cycle

1. Sensitivity of sales
   - Necessities (food, drugs, and medical services) vs. discretionary goods
   - Items that are not sensitive to income levels (such as tobacco) vs. items that are very sensitive (such as machine tools, steel, and autos)

Industry Cyclicality

Figure 17.8 Industry cyclicality: Growth of sales, year over year, in two industries; sales of jewelry show much greater variation than sales of groceries

Source: U.S. Census Bureau.

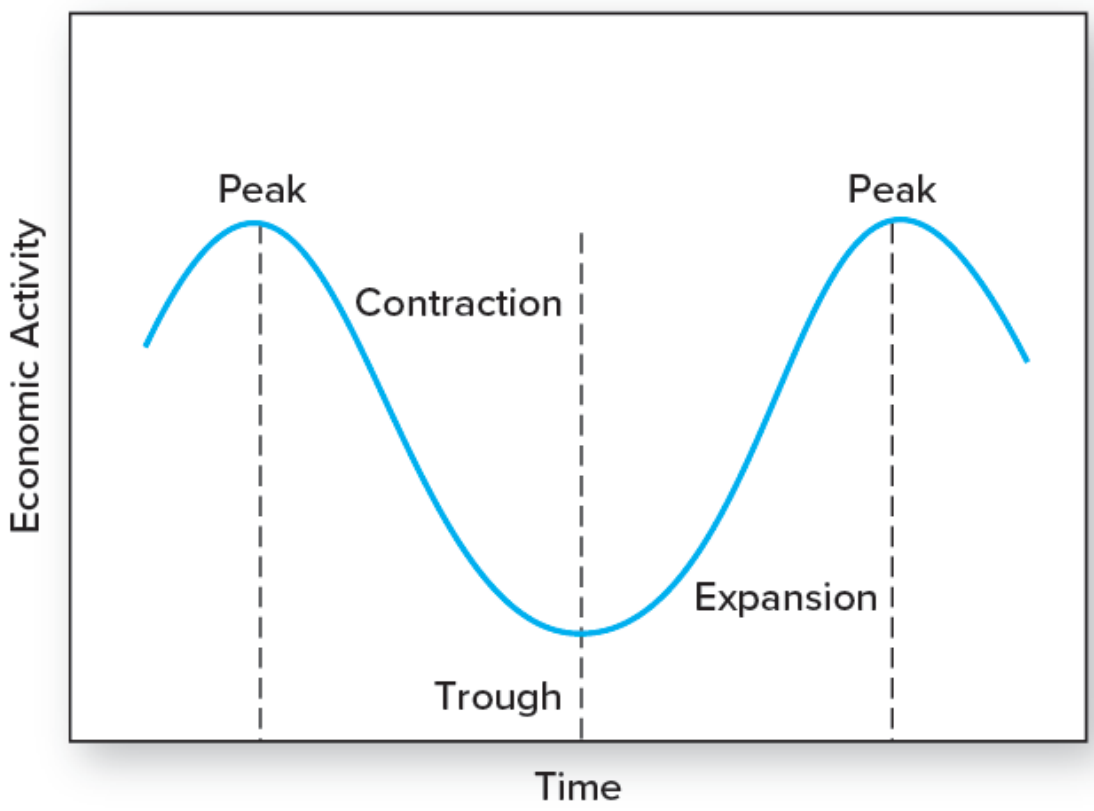
Sensitivity to the Business Cycle
(2 of 3)

2. Operating leverage
   - Refers to division between fixed and variable costs
     - Fixed: costs the firm incurs regardless of its production levels.
     - Variable: costs that rise or fall as the firm produces more or less product.
   - Profits of firms with greater variable costs (i.e. low operating leverage) will be less sensitive to business conditions
   - Profits for firms with high fixed costs (i.e., high operating leverage) will swing more widely with sales

Sensitivity to the Business Cycle
(3 of 3)

3. Financial leverage
   - The use of borrowing.
   - Interest payments on debt must be paid regardless of sales.
   - They are fixed costs that increases the sensitivity of profits to the business cycle

A Stylized Depiction of the Business Cycle



Sector Rotation
(1 of 3)

- One way that many analysts think about the relationship between industry analysis and the business cycle is the notion of **sector rotation**.
- The idea is to shift the portfolio more heavily into industry or sector groups that are expected to outperform others based on one's assessment of the state of the business cycle.

Sector Rotation
(2 of 3)

- **Sector rotation** is an investment strategy which entails shifting the portfolio into industry sectors that are forecast to outperform others based on macroeconomic forecasts
  - Peak of the business cycle
    - Economy might be overheated, with high inflation and interest rates and price pressures on basic commodities
  - Trough of the business cycle
    - Good time to invest in capital goods industries, such as equipment, transportation, or construction

Sector Rotation
(3 of 3)

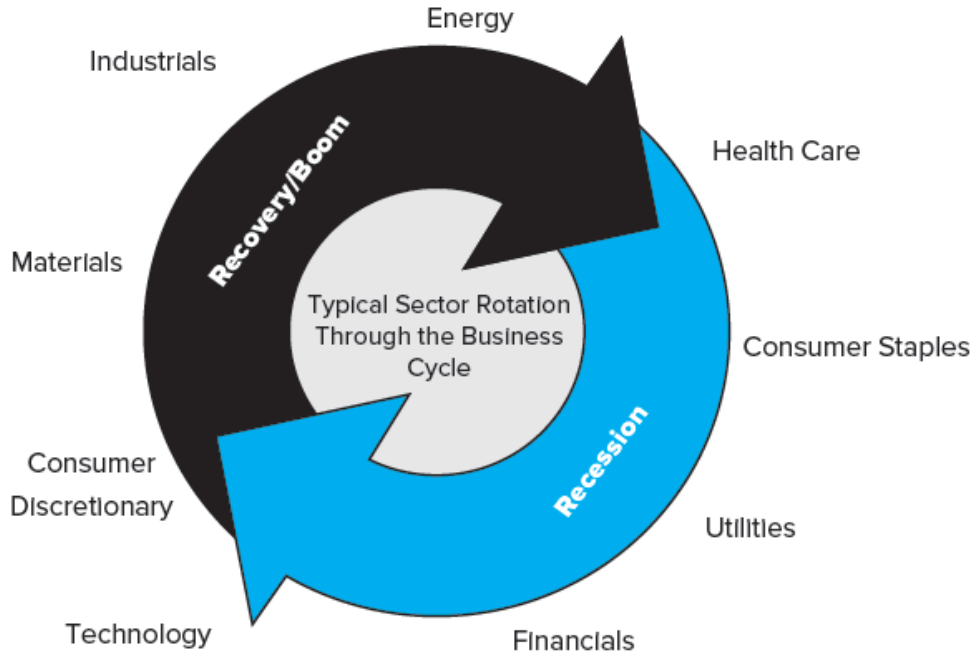


Figure 17.10 Sector rotation

Source: Sam Stovall, *BusinessWeek Online*, "A Cyclical Take on Performance."

Industry Life Cycles

Stage	Sales Growth
• Start-up	➢ Rapid and increasing
• Consolidation	➢ Stable
• Maturity	➢ Slowing
• Relative Decline	➢ Minimal or negative

The Industry Life Cycle