Chapter 13

Charles P. Jones, Investments: Analysis and Management, Eighth Edition, John Wiley & Sons

Economy/Market Analysis

Top-down Approach

- Analyze economy-stock market $\Rightarrow$ industries $\Rightarrow$ individual companies
  - Need to understand economic factors that affect stock prices initially
  - Use valuation models applied to the overall market and consider how to forecast market changes
  - Stock market's likely direction is of extreme importance to investors

Economy and the Stock Market

- Direct relationship between the two
- Economic business cycle
  - Recurring pattern of aggregate economic expansion and contraction
  - Cycles have a common framework
    - trough $\Rightarrow$ peak $\Rightarrow$ trough
  - Can only be neatly categorized by length and turning points in hindsight

Business Cycle

- National Bureau Economic Research
  - Monitors economic indicators
  - Dates business cycle when possible
- Composite indexes of general economic activity
  - Series of leading, coincident, and lagging indicators of economic activity to assess the status of the business cycle

Stock Market and Business Cycle

- Stock prices lead the economy
  - Historically, the most sensitive indicator
  - Stock prices consistently turn before the economy
- How reliable is the relationship?
  - The ability of the market to predict recoveries is much better than its ability to predict recessions

Understanding the Stock Market

- Market measured by index or average
- Most popular indexes
  - Dow-Jones Industrial Average
  - S&P 500 Composite Stock Index
    - Favored by most institutional investors and money managers

Uses of Market Measures

- Shows how stocks in general are doing at any time
  - Gives a feel for the market
- Shows where in the cycle the market is and sheds light on the future
  - Aids investors in evaluating downside
- Helps judge overall performance
- Used to calculate betas

Determinants of Stock Prices

- Long run macroeconomic determinants
- Exogenous or predetermined variables
  - Potential output of economy (Y^*)
    - Labor, Capital, Technology
  - Government spending (G)
  - Tax (T)
  - Nominal money supply (M^S)
    - Two policy variables subject to governmental decisions, one subject to Central Bank's decisions

Determinants of Stock Prices

- G and M affect stock prices by
  - Affecting total aggregate spending or AD, which together with the corporate tax rate affects corporate earnings
- Total aggregate spending, together with economy's potential output (Y^*) determine equilibrium price level (P)

Determinants of Stock Prices

- Corporate earnings and expected inflation affects expected real earnings
- Interest rates and required rates of return also affected by expected inflation
- Stock prices affected by earnings, rates
  - If economy is prospering, earnings and stock prices will be expected to rise

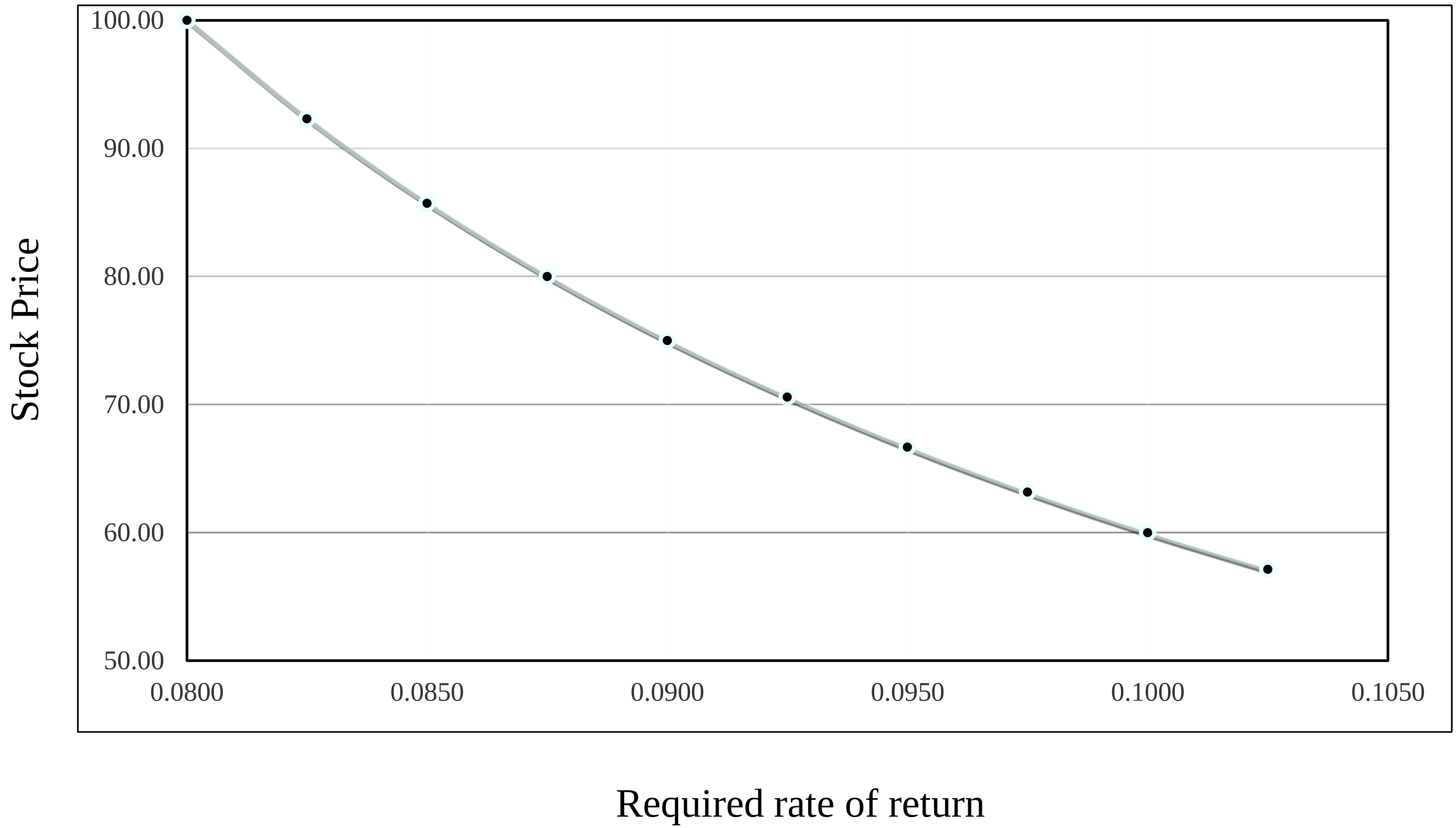
Determinants of Stock Prices

- From constant growth version of Dividend Discount Model

$$P_0 = \frac{D_1}{k - g}$$

- Inverse relationship between interest rates (required rates of return) and stock prices is not linear
  - Determinants of interest rates also affect investor expectations about future

Determinants of Stock Prices



Valuing the Market

- To apply fundamental analysis to the market, estimates are needed for
  - Stream of shareholder benefits
    - Dividends
  - Required return
  - Growth rate

Average measure for the whole market

Valuing the Market

- Required return depends on the market real interest rate.
- Real interest is determined by the demand and supply of money.

Valuing the Market

- By "Demand for Money" we mean how much of our wealth we want to hold in the particular form **money.**

- The quantity of money that people want to hold depends on five main factors:

  - The price level (positive relationship with demand for nominal quantity of money, demand for real money doesn't change with price level)

  - The interest rate (negative relationship)

  - Real GDP (positive relationship)

  - Financial innovation (negative relationship since it lowers the cost of switching between money and interest-bearing assets)

  - Wealth (positive relationship)

Valuing the Market

- **The Demand for Money Curve**
  - The demand for money curve is the relationship between the quantity of real money demanded and the interest rate when all other influences on the amount of money that people wish to hold remain the same.

- **Money Supply Curve**
  - The Central bank determines the quantity of money supplied and on any given day, that quantity is fixed.
  - The supply of money curve is vertical at the given quantity of money supplied.
  - Money market equilibrium determines the interest rate.

Valuing the Market

- Put earnings estimate and interest rate together to get the value of the market

Forecasting Changes in the Market

- Difficult to consistently forecast the stock market, especially short term
  - *EMH* states that future cannot be predicted based on past information
- Investors tend to lose more by missing a bull market than by dodging a bear market

Using the Business Cycle to Make Forecasts

- Leading relationship exists between stock market prices and economy
  - Can the market be predicted by the stage of the business cycle?
- Consider business cycle turning points well in advance, before they occur
  - Stock total returns could be negative (positive) when business cycle peaks (bottoms)

Using the Business Cycle to Make Market Forecast

- If investors can recognize the bottoming of the economy before it occurs, a market rise can be predicted
  - Switch into stocks, out of cash
  - As economy recovers, stock prices may level off or even decline
  - Based on past, the market *P/E* usually rises just before the end of the slump

Using Key Variables to Make Market Forecasts

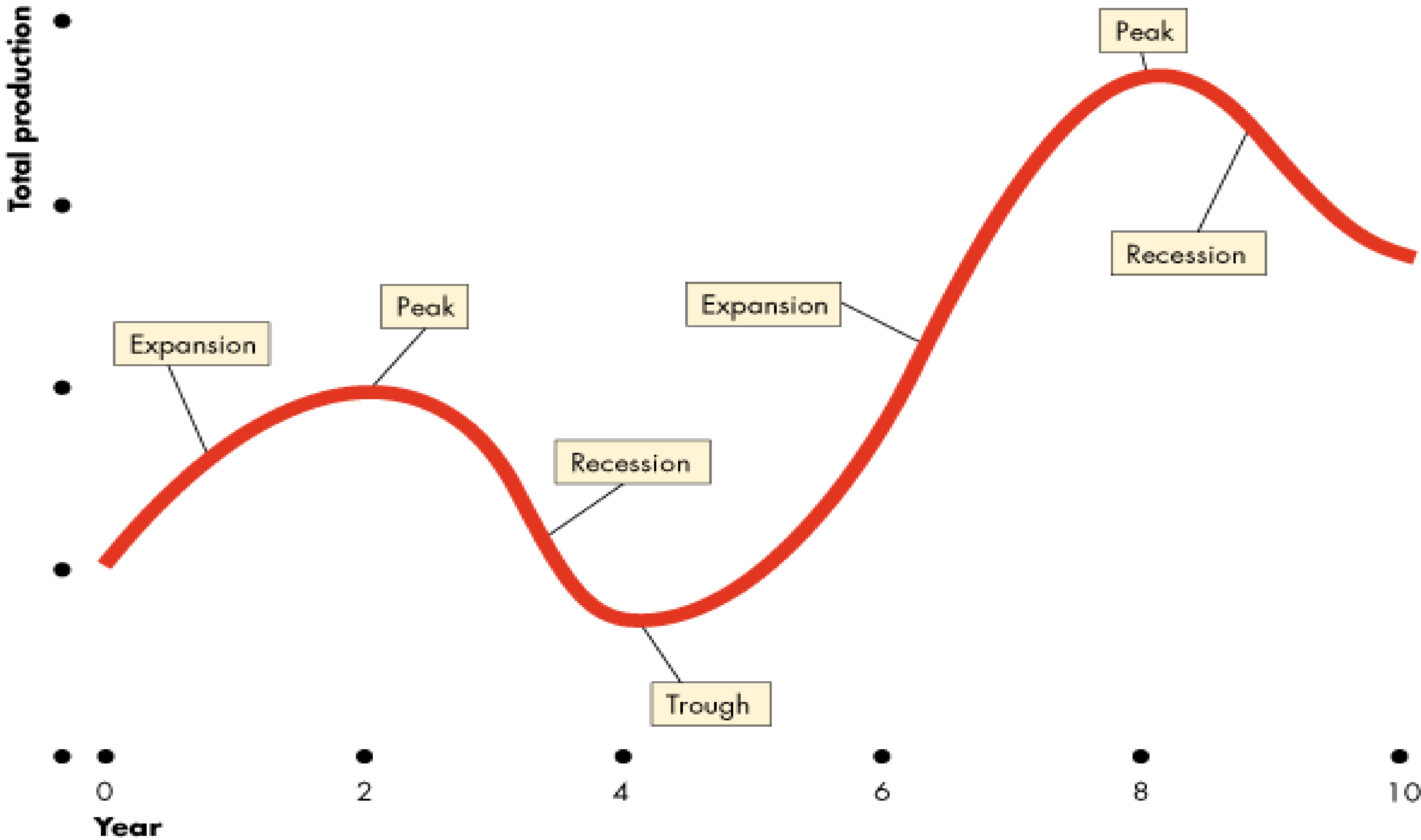
- Best known market indicator is the price/earnings ratio
  - Other indicators: dividend yield, earnings yield

- Problems with key market indicators:
  - When are they signaling a change?
  - How reliable is the signal?
  - How quickly will the predicted change occur?

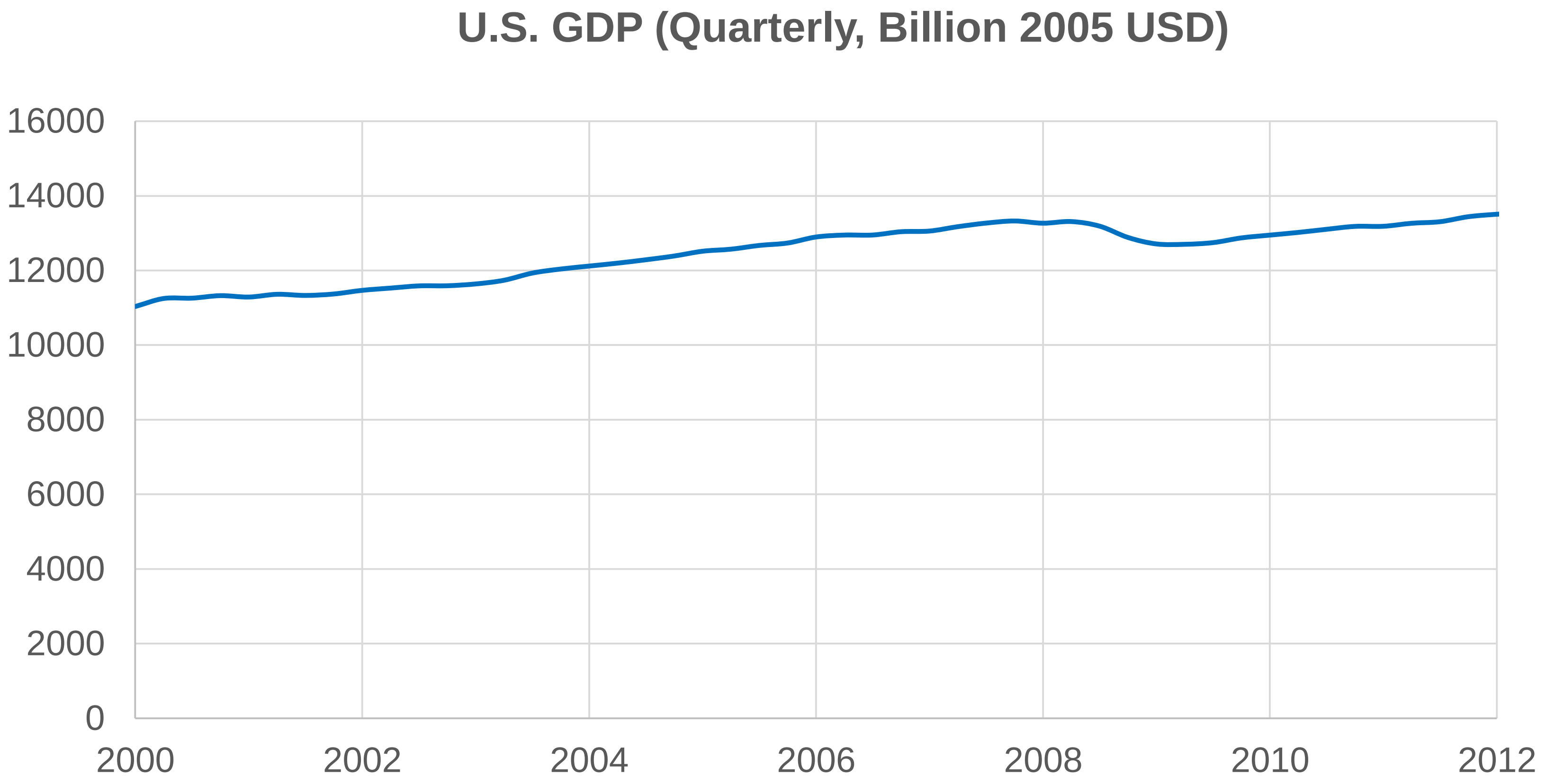
Conclusions

- Market forecasts are not easy, and are subject to error
  - Investors should count on the unexpected occurring
- Intelligent and useful forecasts of the market can be made at certain times, at least as to the likely direction of the market

Business Cycle

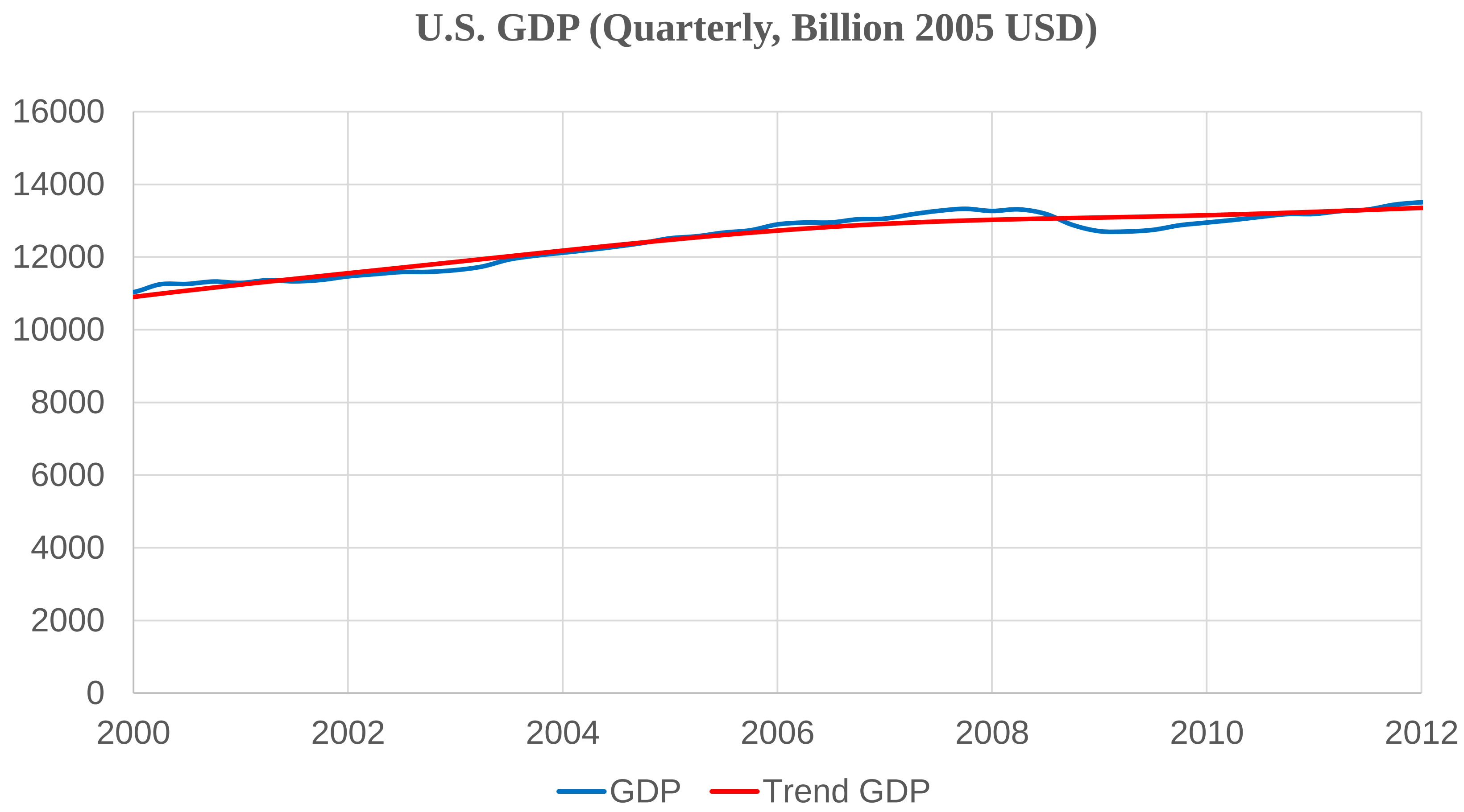


Business Cycle



Data source: **U.S. Department of Commerce Bureau of Economic Analysis**

Business Cycle



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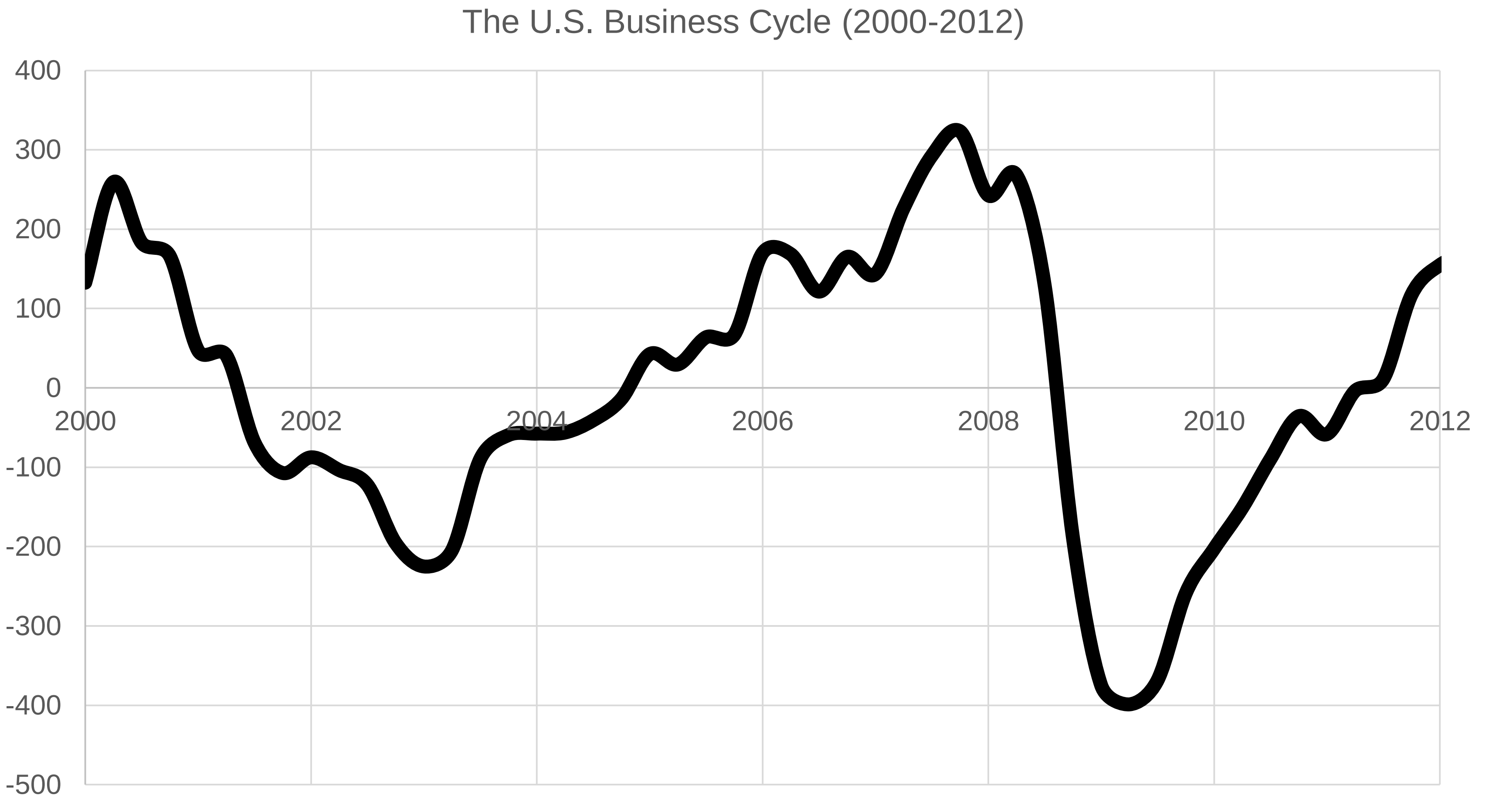

Hodrick-Prescott (HP) filter

- You can download the free Excel add-in from:

  http://www.web-reg.de/hp_addin.html