

Lecture 12

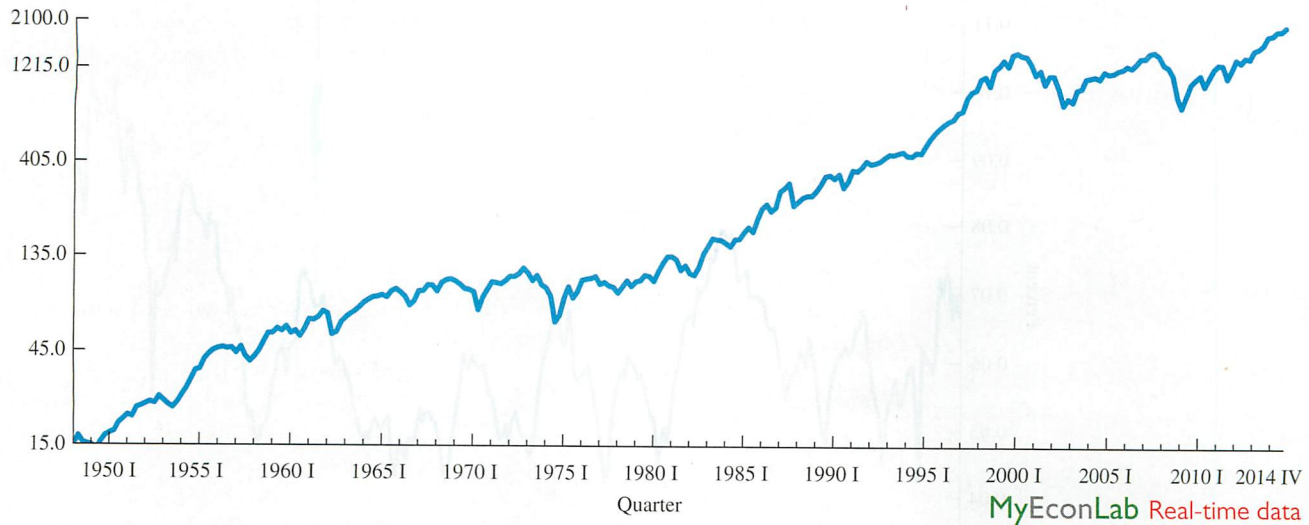
Chapter 14

Stock and Housing Market Effects

Timing of Policy

Government Deficit and Debt

- Stock Market Effects and Housing Market Effects (positive wealth effects on consumption)
- Timing of Policy
- Government Deficit Issues



▲ FIGURE 14.1 The S&P 500 Stock Price Index, 1948 I–2014 IV

the stock market at all, you know that much attention is paid to two stock price indices: the **Dow Jones Industrial Average** and the **NASDAQ Composite**. From a macroeconomic perspective, however, these two indices cover too small a sample of firms. One would like an index that includes firms whose total market value is close to the market value of all firms in the economy. For this purpose a much better measure is the **Standard and Poor's 500** stock price index, called the **S&P 500**. This index includes most of the larger companies in the economy by market value.

The S&P 500 index is plotted in Figure 14.1 for 1948 I–2014 IV. What perhaps stands out most in this plot is the huge increase in the index between 1995 and 2000. Between December 31, 1994, and March 31, 2000, the S&P 500 index rose 226 percent, an annual rate of increase of 25 percent. This is by far the largest stock market boom in U.S. history, completely dominating the boom of the 1920s. Remember that we are talking about the S&P 500 index, which includes most of the firms in the U.S. economy by market value. We are not talking about just a few dot-com companies. The entire stock market went up 25 percent per year for 5 years! This boom added roughly \$14 trillion to household wealth, about \$2.5 trillion per year.¹

What caused this boom? You can see from Figure 12.7 in Chapter 12 that interest rates did not change much in the last half of the 1990s, so the boom cannot be explained by any large fall in interest rates. Perhaps profits rose substantially during this period, and this growth led to a large increase in expected future dividends? We know from the preceding discussion that if expected future dividends increase, stock prices should increase. Figure 14.2 plots for 1948 I–2014 IV the ratio of after-tax profits to GDP. It is clear from the figure that nothing unusual happened to profits in the last half of the 1990s. The share of after-tax profits in GDP rose from the middle of 1995 to the middle of 1997, but then generally fell after that through 2000. Thus, there does not appear to be any surge of profits that would have led people to expect much higher future dividends.

It could be that the perceived riskiness of stocks fell in the last half of the 1990s. This change would have led to smaller discount rates for stocks and thus, other things being equal, to higher stock prices. Although this possibility cannot be completely ruled out, there is no strong independent evidence that perceived riskiness fell.

The stock market boom is thus a puzzle, and many people speculate that it was simply a bubble. For some reason, stock prices started rising rapidly in 1995 and people expected that other people expected that prices would continue to rise. This led stock prices to rise further, thus fulfilling the expectations, which led to expectations of further increases, and so on. Bubble believers note that once stock prices started falling in 2000, they fell a great deal. It is not the case that stock prices just leveled out in 2000; they fell rapidly. People of the bubble view argue that this was simply the bubble bursting.

Dow Jones Industrial Average

An index based on the stock prices of 30 actively traded large companies. The oldest and most widely followed index of stock market performance.

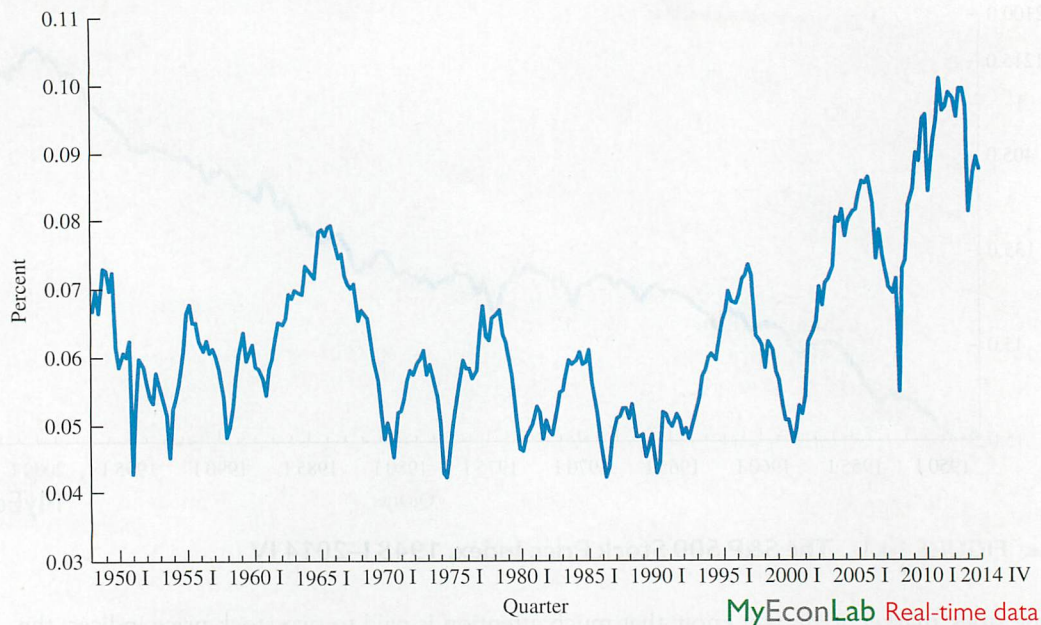
NASDAQ Composite

An index based on the stock prices of more than 5,000 companies traded on the NASDAQ Stock Market. The NASDAQ market takes its name from the National Association of Securities Dealers Automated Quotation System.

Standard and Poor's 500 (S&P 500)

An index based on the stock prices of 500 of the largest firms by market value.

¹ It is worth noting that S&P changes the firms that are in its index as firms either prosper or fade. This selection tells us that the index will overestimate actual stock market gains as a result of survivor bias.



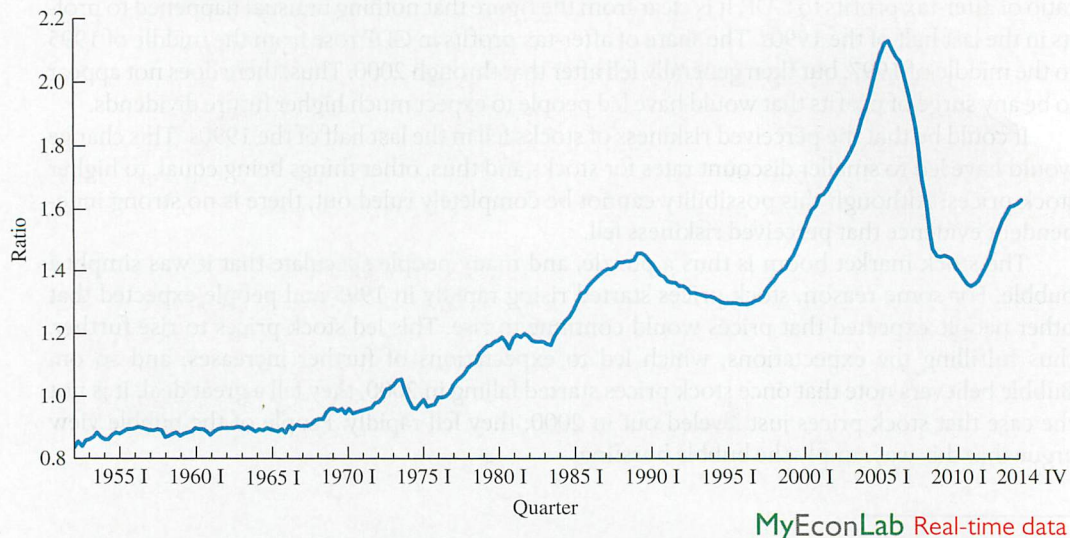
▲ FIGURE 14.2 Ratio of After-Tax Profits to GDP, 1948 I–2014 IV

The first problem then for the stability of the macroeconomy is the large and seemingly unpredictable swings in the stock market. As we will see, these swings induce behavior changes by households and firms that affect the real economy. Before we explore this link, however, we turn to a second volatile series: housing prices.

Housing Prices Since 1952

Figure 14.3 plots the relative price of housing for 1952 I–2014 IV. The plotted figure is the ratio of an index of housing prices to the GDP deflator. When this ratio is rising, it means that housing prices are rising faster than the overall price level, and vice versa when the ratio is falling.

The plot in Figure 14.3 is remarkable. Housing prices grew roughly in line with the overall price level until about 2000. The increase between 2000 and 2006 was then huge, followed by an equivalent fall between 2006 and 2009. Between 2000 I and 2006 I the value of housing wealth increased by about \$13 trillion, roughly \$500 billion per quarter. Between 2006 II and 2009 I the fall in the value of housing wealth was about \$7 trillion, more than \$600 billion per quarter. Once again, it is hard to find a cogent reason for this based on the use value of housing. Rental prices, for example, did not rise and fall in this way.



▲ FIGURE 14.3 Ratio of a Housing Price Index to the GDP Deflator, 1952 I–2014 IV

Stock Market - 1987

- \$1000 billion Aug. 1987 - Oct. 1987

$$\frac{1}{20} (-1000) = -50$$

[$\frac{1}{20}$: 5¢ on dollar]

$$\frac{-50}{4000} = -1.25\%$$

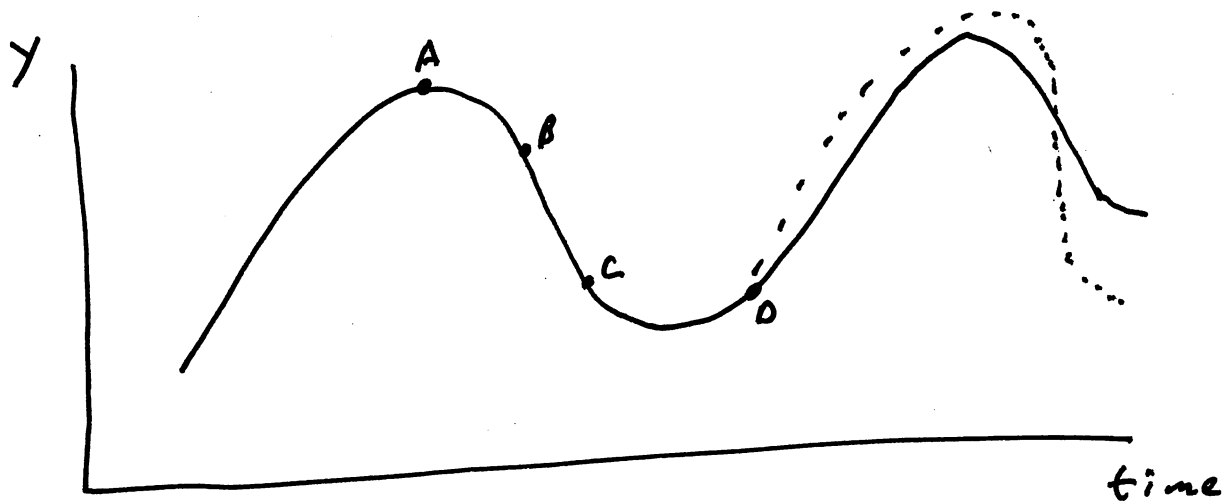
[4000 : GDP]

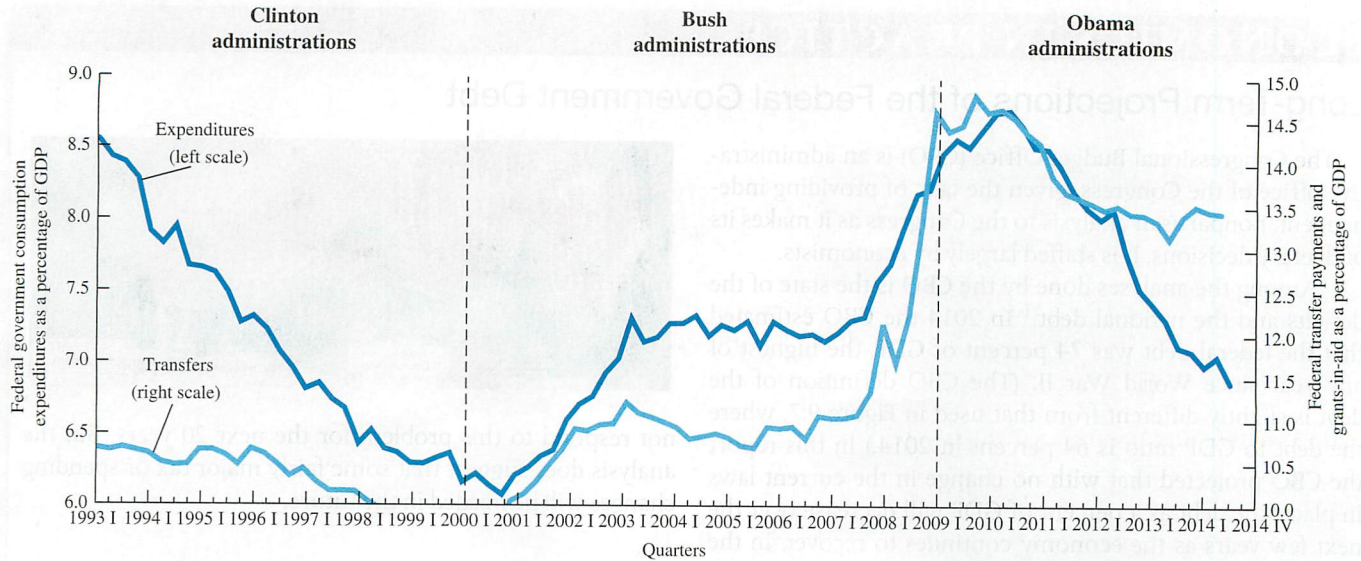
$$-50(1.5) = -75$$

[1.5 : multiplier]

$$\frac{-75}{4000} = -1.88\%$$

Timing of Fiscal Policy





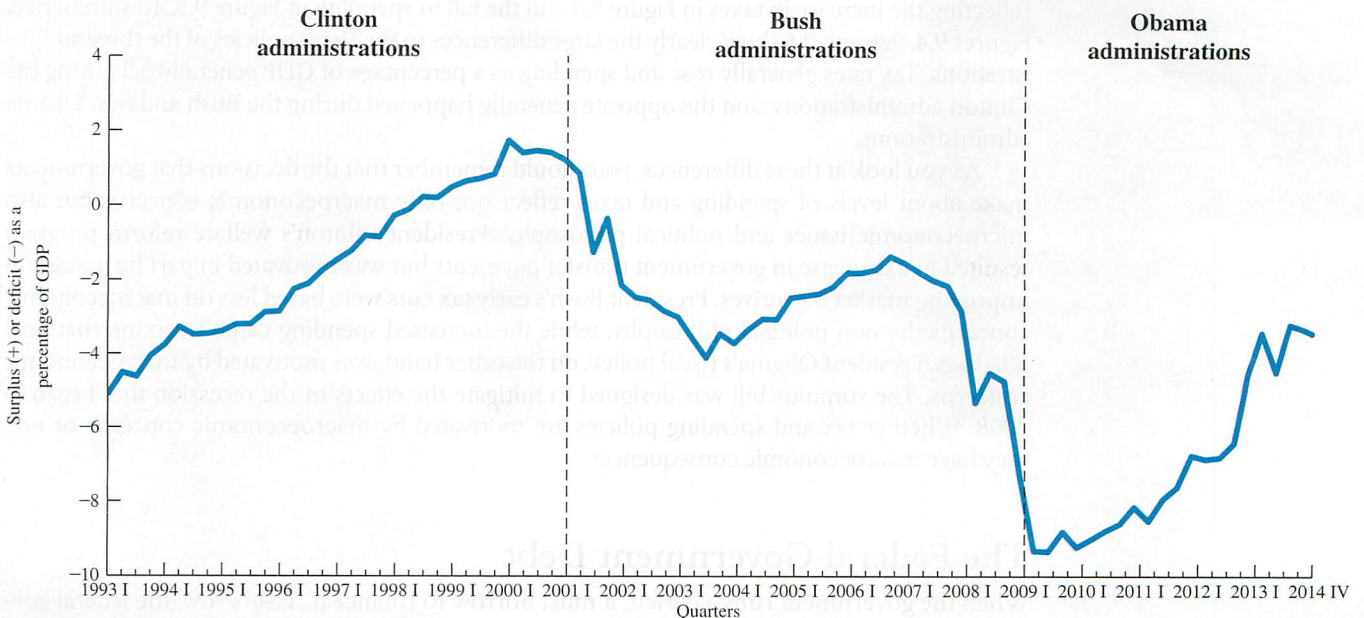
▲ **FIGURE 9.5** Federal Government Consumption Expenditures as a Percentage of GDP and Federal Transfer Payments and Grants-in-Aid as a Percentage of GDP, 1993 I–2014 IV

MyEconLab Real-time data

and increased spending for the Afghanistan war. Expenditures as a fraction of GDP have been falling during the second Obama administration.

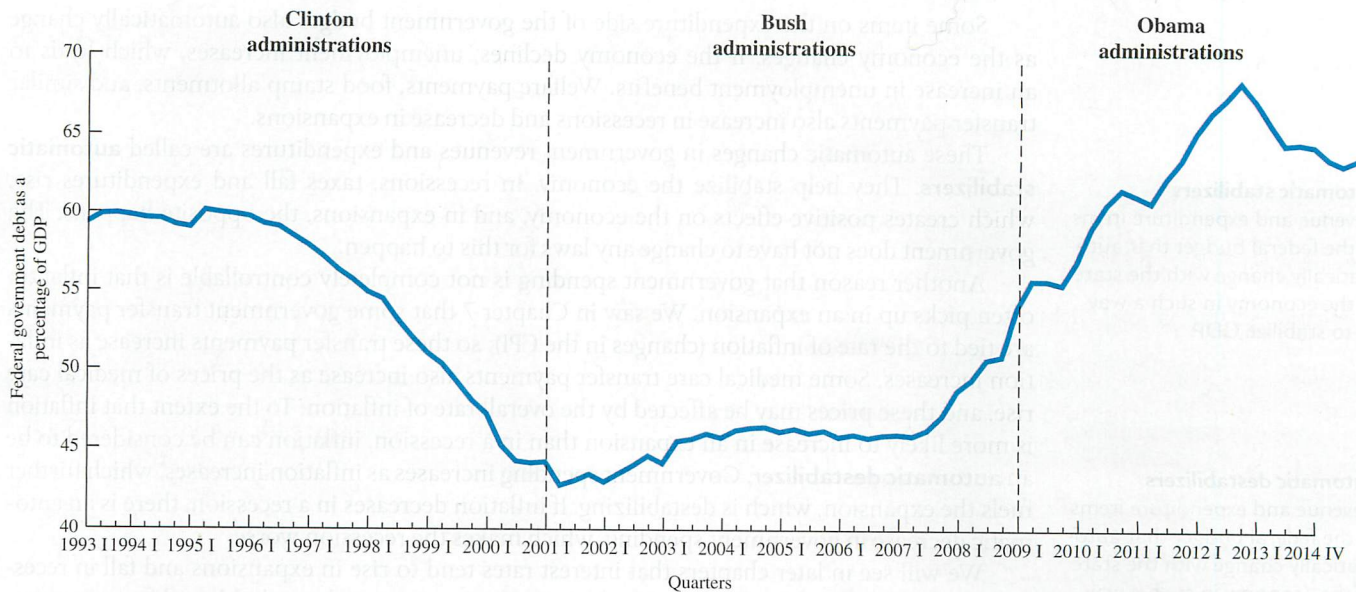
Figure 9.5 also shows that transfer payments as a percentage of GDP generally rose during the Bush administrations especially near the end, and remained high in the Obama administration. The percent was flat or slightly falling during the Clinton administrations. Some of the fall between 1996 and 2000 was because of President Clinton’s welfare reform legislation. Some of the rise from 2001 on is as a result of increased Medicare payments. The high initial values in the Obama administration again reflect the effects of the stimulus bill and various extensions.

Figure 9.6 plots the federal government surplus (+) or deficit (–) as a percentage of GDP. The figure shows that during the Clinton administrations the federal budget moved from



▲ **FIGURE 9.6** The Federal Government Surplus (+) or Deficit (–) as a Percentage of GDP, 1993 I–2014 IV

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▲ FIGURE 9.7 The Federal Government Debt as a Percentage of GDP, 1993 I–2014 IV

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total amount owed by the federal government. The federal debt is the total of all accumulated deficits minus surpluses over time. Conversely, if the government runs a surplus, the federal debt falls.

Some of the securities that the government issues end up being held by the federal government at the Federal Reserve or in government trust funds, the largest of which is Social Security. The term **privately held federal debt** refers only to the *privately held* debt of the U.S. government.

The privately held federal government debt as a percentage of GDP is plotted in Figure 9.7 for the 1993 I–2014 IV period. The percentage fell during the second Clinton administration, when the budget was in surplus, and it mostly rose during the Bush administrations, when the budget was in deficit. The rise during the first Obama administration was dramatic. During the second Obama administration the debt to GDP ratio has leveled off.

privately held federal debt The privately held (non-government-owned) debt of the U.S. government.

The Economy's Influence on the Government Budget

We have just seen that an administration's fiscal policy is sometimes affected by the state of the economy. The Obama administration, for example, increased government spending and lowered taxes in response to the recession of 2008–2009. It is also the case, however, that the economy affects the federal government budget even if there are no explicit fiscal policy changes. There are effects that the government has no direct control over. They can be lumped under the general heading of “automatic stabilizers and destabilizers.”

9.4 LEARNING OBJECTIVE

Explain the influence of the economy on the federal government budget.

Automatic Stabilizers and Destabilizers

Most of the tax revenues of the government result from applying a tax rate decided by the government to a base that reflects the underlying activity of the economy. The corporate profits tax, for example, comes from applying a rate (say 35 percent) to the profits earned by firms. Income taxes come from applying rates shown in tax tables to income earned by individuals. Tax revenues thus depend on the state of the economy even when the government does not change tax rates. When the economy goes into a recession, tax revenues will fall, even if rates remain constant, and when the economy picks up, so will tax revenues. As a result, deficits fall in expansions and rise in recessions, other things being equal.

October 7, 2016, employment
announcement

POPULATION 16+	+237,000 +444,000
LABOR FORCE	+447,000
EMPLOYED	+354,000
UNEMPLOYED	+93,000
JOB(S) (PAYROLL)	+156,000
DISCOURAGED WORKERS	SEPT.: 553,000 7,839,000
TOTAL UNEMPLOYED	SEPT.: 7,939,000
MOON = JOBS - EMPLOYED =	-198,000