Chapter 1
The Policy and Practice of Macroeconomics

■ Chapter Outline, Overview, and Teaching Tips

Chapter Outline

The Practice of Macroeconomics

The Process: Developing Macroeconomic Models
The Purpose: Interpreting Macroeconomic Data

Macroeconomic Policy

How Can Poor Countries Get Rich?
Is Saving Too Low?
Do Government Budget Deficits Matter?
How Costly Is It to Reduce Inflation?
How Can We Make Financial Crises Less Likely?
How Active Should Stabilization Policy Be?
Should Macroeconomic Policy Follow Rules?
Are Global Trade Imbalances a Danger?

How We Will Study Macroeconomics

Emphasis on Policy and Practice
Concluding Remarks

Chapter Overview and Teaching Tips

The first chapter of this textbook has several objectives. The first is to convince students that macroeconomics is worth studying. This chapter pursues this goal by showing the student that macroeconomics is an exciting field because it focuses on phenomena that affect everyday life. A second objective of the chapter is to help the student understand what the practice of macroeconomics is all about and what central policy issues are addressed in the study of macroeconomics. Finally, the chapter provides an overview for the entire book, previewing the topics that will be covered in later chapters. The chapter also provides students with a guide as to how they will be studying macroeconomics, by explaining and developing macroeconomic models and then applying these models to understand the policy and practice of macroeconomics.

In teaching this chapter, the most important goal should be to motivate students by getting them excited about what they are about to learn. I have found that there are two ways to do this. First is to talk about the basic macroeconomic data in Figures 1.2 to 1.10 and explain that numerous real world applications in the book will be used to show how macroeconomic analysis can explain this data. Second is to have the students give their initial reactions to the eight basic policy questions posed in the chapter: How can poor countries get rich? Is saving too low? Do government budget

deficits matter? How costly is it to reduce inflation? How can we make financial crises less likely? How active should stabilization policy be? Should macroeconomic policy follow rules? Are global trade imbalances a danger?

Once they have given their initial views, the instructor can tell the students that they will have much clearer understanding of these issues when they have finished the course and will have mastered analytic frameworks that can help them have informed views about the issues.

■   Answers to End of Chapter Review Questions and Problems

Answers to Review Questions

Preview

1. Economic growth, labor market conditions (the unemployment rate and growth in the number of jobs), inflation, the value of the U.S. dollar, and changes in economic policy measures such as interest rates and tax rates all will have significant impacts on your future.

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2. Endogenous variables are the variables whose behavior a model seeks to explain. Changes in the values of these variables are explained in terms of changes in exogenous variables, whose values are not explained by the model but instead are determined outside the model and taken as given. For example, an economist might build a model to explain why inflation rates differ over time and across countries based on changes in money supply growth. In this model, the inflation rate is the endogenous variable, and money supply growth is the exogenous variable.

3. The model conclusions should be able to match the data. If the model is incapable of explaining the data, then it has to be changed.

4. Real gross domestic product, which measures an economy's aggregate output, is important because it gives information about both long-term growth and short-run fluctuations of output. The unemployment rate measures how fully labor resources are being used in the economy and how widespread the economic hardship experienced by unemployed workers may be. The inflation rate gives an overall measure of how rapidly prices are rising and signals how serious the costs of inflation may be at any given time.

5. The business cycle is a sequence of recurring but irregular fluctuations in economic activity. A recession is the period of the business cycle during which economic activity is declining. Macroeconomists study business cycles and are particularly concerned with the causes of recessions and depressions.

6. During periods of inflation, the overall level of prices rises. It falls during deflationary periods.

Macroeconomic Policy

7. A nation's savings rate is the part of income that is saved each year (it is the sum of private and public savings). Precautionary savings seem to be at the root of the high Chinese savings, with people accumulating money to face future costs related to healthcare, education, and retirement. Some researchers claim that high savings rates are related to the one-child policy, and the resulting pressure on the marriage market: wealth is accumulated in the hope of making male sons more competitive given the shortage of women (Wei, Shang-Jin, and Xiaobo Zhang. The competitive savings motive: Evidence from rising sex ratios and savings rates in China. National Bureau of Economic Research, w15093, 2009). On the other hand, in the USA savings rates are very low. The main explanation seems to be a consumption boom due to large wealth effects (driven by the high value of real assets), together with relaxed liquidity constraints in the credit markets. Culture-related reasons may also help explaining the differences between the two countries.

8. When government has a budget deficit, it is spending more than the tax revenues it collects and, therefore, must borrow money and go deeper into debt. Macroeconomists have concerns about the size of budget deficits, the burden deficits may impose on future generations facing higher taxes to pay off the government's debt, and the inflation that may result if a government decides to print more money to cover its deficit and debt. The degree of these concerns increases with the size of the budget deficit.

9. Fiscal policy is in the hands of governments, while monetary policy is controlled by Central Banks. Fiscal policy is typically assumed to have the objectives of stabilizing output, achieving an efficient allocation of resources, and redistributing income (Richard Musgrave was the first economist to state it in those terms). Monetary policy's main goal today is to stabilize inflation. The European Central Bank is in charge of monetary policy in the European Monetary Union.

10 Stabilization policy is the use of fiscal and monetary policies to stabilize economic activity by reducing business cycle fluctuations. One debate concerns how active stabilization policy should be. It pits *nonactivists*, macroeconomists who believe that the economy has a self-correcting mechanism that works rapidly to reduce unemployment without the need for stabilization policy, against *activists,* who think this self-correcting mechanism is too slow and therefore call for the active use of fiscal and monetary policies to reduce unemployment when it is unacceptably high. A second debate arises between macroeconomists who advocate the use of policy *rules* to specify in advance precisely how policymakers must react to changes in unemployment or inflation and those who would allow policymakers greater latitude to use their *discretionary* judgment to formulate the policy response they believe is most appropriate in a given situation.

11 Global trade imbalances occur when some countries run large trade deficits and become increasingly indebted to and dependent on large capital inflows from other countries that are running large trade surpluses. These imbalances are not sustainable in the long run. Economists focus on them because a ready supply of funds from abroad can result in too much investment in particular asset markets, and if the flows are reduced suddenly, it can lead to financial crises, which have detrimental effects on economic activity.

Answers to Problems

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1. a.   The endogenous variable is the variable explained by your model, in this case, the prevalence of diabetes in children. The exogenous variable is a variable that is determined outside the model and that presumably has an impact on the endogenous variable. In this case, a child's weight would be the exogenous variable.

   b.   Other exogenous variables should include factors that one way or another might contribute to diabetes: hours of exercise, income level, education, etc. Choosing the proper exogenous variables and testing their effects is an important part of advancing scientific knowledge.

2. A model is as good as its predictive power, in terms of explaining both previous and future changes in the explained variable. If a current model does not "fit the data," meaning that it cannot replicate current trends in diabetes prevalence, then the researcher has to go back to step 2 and look for other explanatory variables. This process should be repeated until the model can explain current trends and, therefore, can be used to predict future changes.

3. a.   According to the graph, Spain's real GDP growth rate decreased from the first quarter of 2007 until the third quarter of 2009. After that the growth rate rose but reached a peak of only 0.6 percent in the third quarter of 2011 and then turned negative again in 2012. Thus, the overall trend for the Spanish growth rate has been downward.

Spain Real GDP growth rate
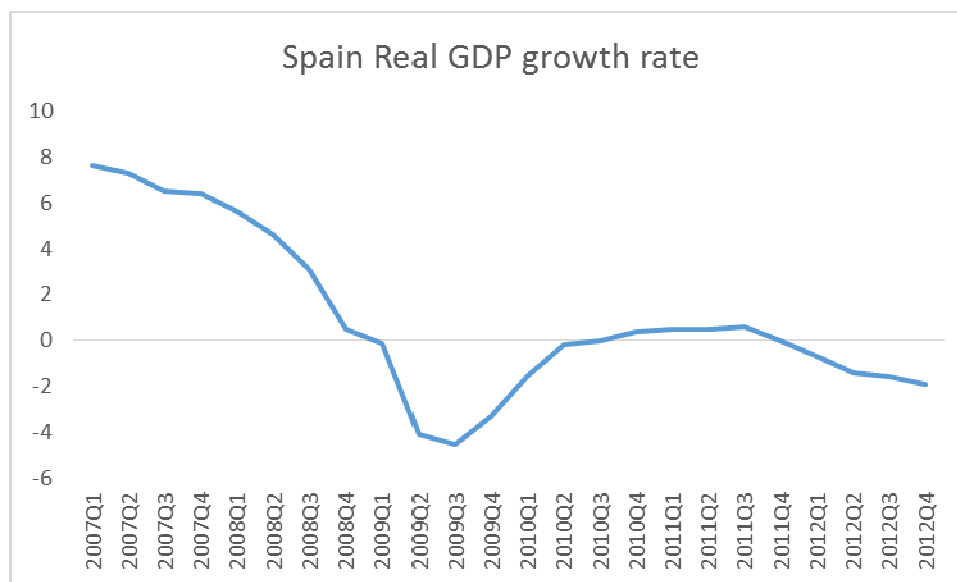
b. According to data, Spain experienced a recession from the first quarter of 2009 until the third quarter of 2010. However, Spain entered another recession in the first quarter of 2012, when its real GDP growth rate again became negative. Although the real GDP growth rate is not the only indicator of a recession, it usually moves together with other indicators such as the unemployment rate or investment.

4. The big rise in unemployment mentioned in the question means that a lot of people lost their jobs in a very short period of time, and they are now unable to find new ones. Economically, this means that resources are not utilized; therefore it is an inefficient outcome for the economy. Also, poverty may increase when citizens do not receive any income. High unemployment rates also have additional effects on people's life, with adverse effects on individuals' health, psychological states of mind, and future life prospects.

Macroeconomic Policy

5. Budget deficits by themselves are not inherently good or bad. However, as we will study later, they can be the source of inflation if governments pay for a budget deficit by printing money. Very high inflation rates (sometimes in excess of 50 percent per month) have a disastrous effect on any economy. High inflation rates decrease incentives to invest and distort relative prices, making economic decisions more difficult. High inflation rates for a sustained period eventually translated into stagnating or decreasing real GDP growth rates in Latin American countries, making this experience an example to avoid. Subsequent (and costly) economic reforms put these countries on the right track again, mostly by reducing budget deficits and inflation.

6. a. The immediate effect of the destruction created by a civil war is a decrease in the economy's ability to produce goods and services. Goods cannot be moved from producer to buyers, and fewer individuals are able or willing to work during a civil war, decreasing the labor force and work opportunities. Countries with a history of frequent civil wars have significantly lower real GDP growth rates than countries with more stable political regimes.

   b. A civil war kills incentives to invest, which implies postponing present consumption and putting resources away in order to increase future consumption. The chaos and uncertainty created by a civil war increase incentives for present consumption and, therefore, result in lower economic growth. As we will study later, investment is a major driving force for economic growth.

7. Some propose tightening fiscal policy, by either raising taxes, or cutting spending, or both. In Europe many governments decided to pursue austerity policies (for example in the United Kingdom and in Italy), others were forced by the IMF to do it (in Greece, Ireland, and Portugal). However, some economists say that tight fiscal policy
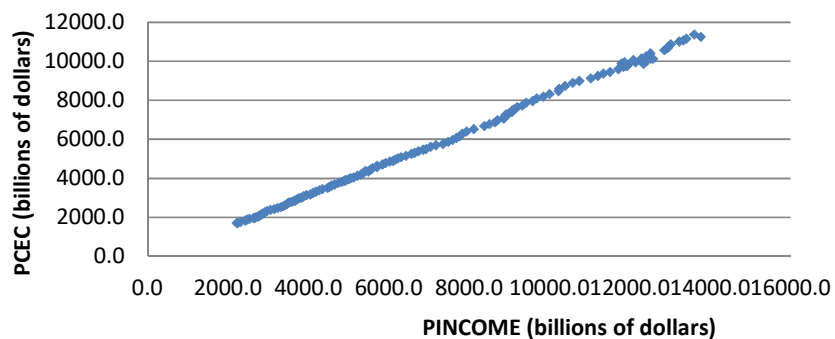
could do more harm than good, given its adverse effects on GDP growth. According to some observers, this is indeed what happened in Greece, where GDP fell by about 25% in the 6 years following the crisis and the government struggled to improve its fiscal position. On the other hand, the case of Ireland seems to point towards more beneficial effects of austerity policies, given the faster recovery from the crisis of the Irish economy.

8. The fact that Americans currently are not saving enough might have very important implications for future generations. One of them is that future generations might face higher taxes than present generations to pay for the debt accumulated to allow higher current consumption by the present generation. Higher future taxes might result in lower standards of living, as future generations will have to set aside a higher percentage of their income to pay for taxes. Another implication of this situation is that future generations should expect to receive less help from their children to support them when they retire. This follows from the fact that their children will probably face higher taxes. We will later study the different policies that can affect incentives to save for the future.

9. This note reveals that the government was heavily intervening in the economy (particularly in the financial sector) in order to counteract the adverse effects of the financial crisis. This is an example of an activist policy, with the government trying to sustain the economic activity of its country.

10. Given that increases in the money supply usually lead to high inflation rates, the Bank of England actions led to higher expected inflation. The UK inflation rate did rise in 2012 and 2013, but not to particularly worrying levels. In fact, there is no clear-cut relationship between monetary policy (and the money supply) and the inflation rate, especially in the short run. Inflation is a variable worth studying, given its potentially disruptive effects on the economic activity.

11. a. The American Recovery and Reinvestment Act of 2009 can be considered an example of discretionary macroeconomic policy. It was essentially a set of policies intended to support economic agents affected by the subprime financial crisis and to promote economic recovery.

    b. One of the fears related to conducting discretionary policy is that agents will come to expect that the government will react to accommodate unusual economic downturns. This becomes a problem when financial intermediaries expect government assistance when there is a financial crisis. It also affects incentives for households that come to expect some type of support during contractions. In this sense, this problem looks very much like raising children: If kids expect to be "bailed out" when they do not behave as asked, then it is quite possible that their incentives to behave properly decrease. From the point of view of financial intermediaries, this would mean that they do not have a huge incentive to appropriately price risks.

■   Answers to Data Analysis Problems

1. PINCOME is exogenous, and PCEC is endogenous; M1SL and PAYEMS are unrelated; GS10 is exogenous, and PSAVERT is endogenous. Scatterplots are shown below.

Personal Income vs Consumption, Quarterly, 1980:1 - 2013:1

Total Nonfarm Payroll (PAYEMS) vs. M1 Money Supply (M1SL), monthly 2000:1 to 2013:5

Personal Saving Rate (PSAVERT) vs. 10 year US Treasury Rate (GS10), monthly, 1980:1 to 2013:4
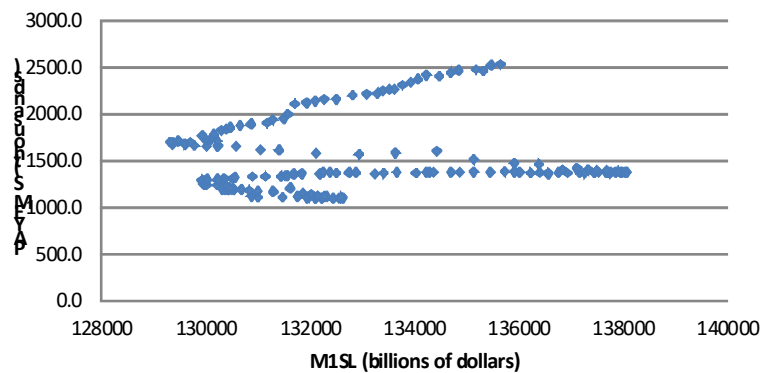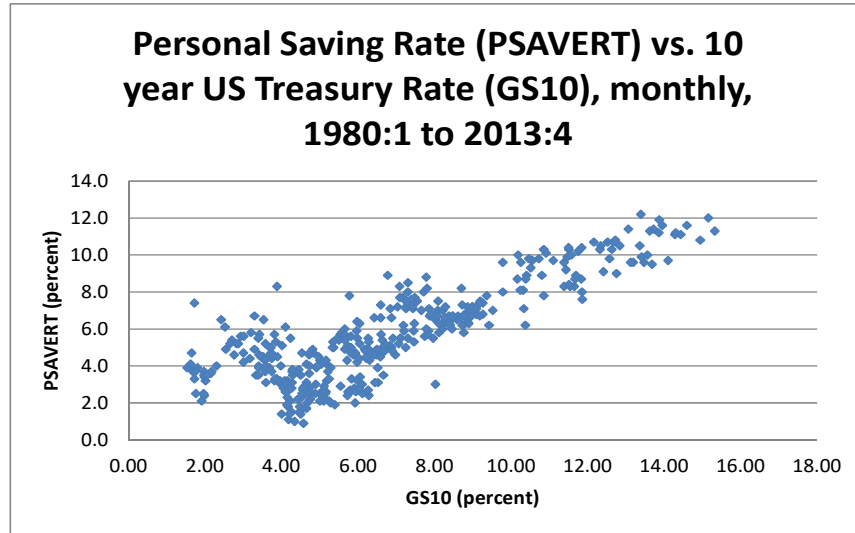

2. Data from 2000 Q1 to 2013 Q1 are shown below, with recessions highlighted.

   a. The highest inflation rate was 4.2percent in the third quarter of 2008. The lowest was
      –0.8 percent in the third quarter of 2009. Deflation occurred in the second and third quarter of 2009.

   b. The highest GDP growth rate was 5.4 percent in the second quarter of 2000. The lowest growth rate was –
      4.6 percent in the second quarter of 2009.

   c. In general, the periods of recession tend to have the lowest inflation rates and the lowest GDP growth rates.

Date	PCE Inflation Rate	GDP Growth Rate
2000-01-01	2.6	4.2
2000-04-01	2.4	5.4
2000-07-01	2.5	4.1
2000-10-01	2.5	2.9
2001-01-01	2.3	2.3
2001-04-01	**2.3**	**1.0**
2001-07-01	**1.8**	**0.6**
2001-10-01	**1.3**	**0.4**
2002-01-01	0.8	1.6
2002-04-01	1.1	1.5
2002-07-01	1.6	2.3
2002-10-01	2.0	1.9
2003-01-01	2.5	1.5
2003-04-01	1.8	1.8
2003-07-01	1.9	3.0
2003-10-01	1.9	3.9
2004-01-01	2.0	4.1
2004-04-01	2.7	3.9
2004-07-01	2.7	3.0
2004-10-01	3.0	2.9
2005-01-01	2.8	3.3
2005-04-01	2.7	3.1
2005-07-01	3.2	3.1
2005-10-01	3.2	2.8
2006-01-01	3.1	3.0

| Date	PCE Inflation Rate	GDP Growth Rate
2006-04-01	3.2	3.0
2006-07-01	2.8	2.2
2006-10-01	1.9	2.4
2007-01-01	2.4	1.2
2007-04-01	2.5	1.7
2007-07-01	2.4	2.5
2007-10-01	3.5	2.2
2008-01-01	**3.4**	**1.6**
2008-04-01	**3.7**	**1.0**
2008-07-01	**4.2**	**−0.6**
2008-10-01	**1.7**	**−3.3**
2009-01-01	**0.2**	**−4.2**
2009-04-01	**−0.5**	**−4.6**
2009-07-01	−0.8	−3.3
2009-10-01	1.4	−0.1
2010-01-01	2.4	1.9
2010-04-01	2.1	2.5
2010-07-01	1.7	2.8
2010-10-01	1.5	2.4
2011-01-01	1.8	1.8
2011-04-01	2.6	1.9
2011-07-01	2.8	1.6
2011-10-01	2.5	2.0
2012-01-01	2.4	2.4
2012-04-01	1.6	2.1
2012-07-01	1.5	2.6
2012-10-01	1.6	1.7
2013-01-01	1.2	1.8

3. a. Germany experienced the highest unemployment rate in 2005 at 11.2 percent; Japan experienced the lowest unemployment rate in 2007 at 3.6 percent.

   b. During years of recession shown in the table, the average unemployment rate is 6.6 percent. When not in recession, the unemployment is lower at 6.2 percent. This is expected because the unemployment rate rises during recessions and falls during expansions.

   c. There are clear similarities between the unemployment rates of the United States, Canada, United Kingdom, and Japan. They generally move up and down together. The outlier is Germany, which experienced much higher unemployment than the other countries but has had steady declines in their unemployment rate while many others have experienced high unemployment from the last recession.

Graph and table are shown below, from 2000 to 2012. The bold indicates a year in which the United States was in recession.
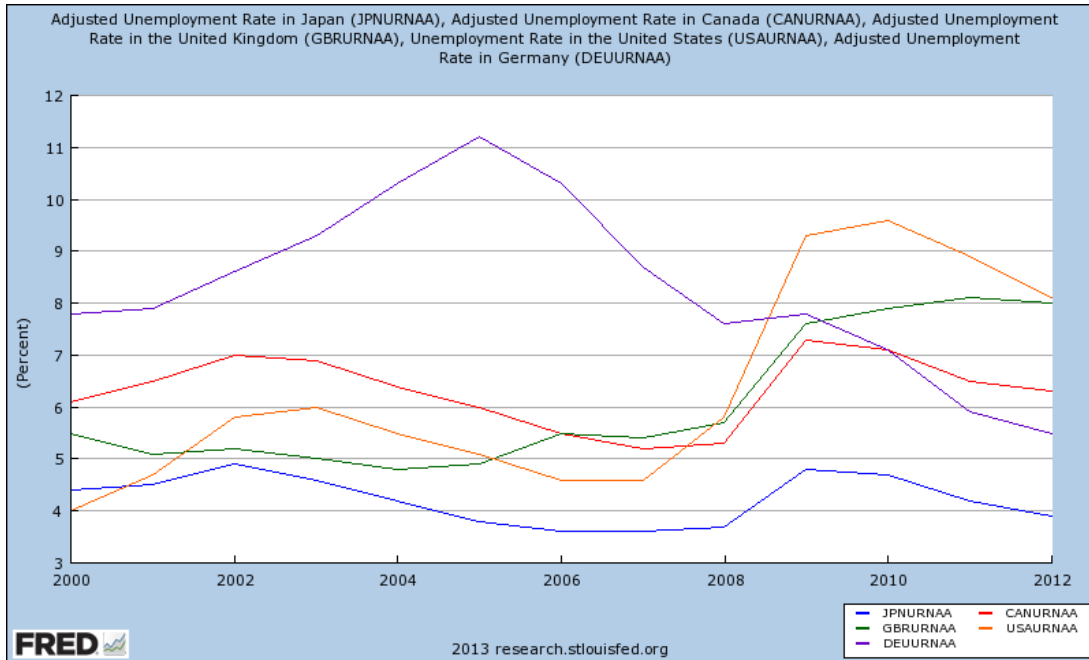
Date	United States	Canada	United Kingdom	Japan	Germany
2000-01-01	4.0	6.1	5.5	4.4	7.8
2001-01-01	**4.7**	6.5	5.1	4.5	7.9
2002-01-01	5.8	7.0	5.2	4.9	8.6
2003-01-01	6.0	6.9	5.0	4.6	9.3
2004-01-01	5.5	6.4	4.8	4.2	10.3
2005-01-01	5.1	6.0	4.9	3.8	11.2
2006-01-01	4.6	5.5	5.5	3.6	10.3
2007-01-01	4.6	5.2	5.4	3.6	8.7
2008-01-01	**5.8**	5.3	5.7	3.7	7.6
2009-01-01	**9.3**	7.3	7.6	4.8	7.8
2010-01-01	9.6	7.1	7.9	4.7	7.1
2011-01-01	8.9	6.5	8.1	4.2	5.9
2012-01-01	8.1	6.3	8.0	3.9	5.5

4. a. The United States has the highest standard of living according to the data; China has the lowest among the five.

   b. South Korea's standard of living has steadily improved over time and has closed a significant gap with Japan and the United Kingdom. In 1990, the gap was $17,694 per person compared to Japan and $12,794 per person compared to the United Kingdom; in 2011, the gap shrunk to $4,040 and $5,434 per person, respectively.

   c. Although China's standard of living is much lower overall, it has grown rapidly during the last two decades, from around $674 per person in 1990, to almost $4,500 per person in 2011, a 563 percent increase; South Korea has the next highest growth over that period (152 percent), followed by the United Kingdom (44 percent), United States (33 percent), and Japan (16 percent).
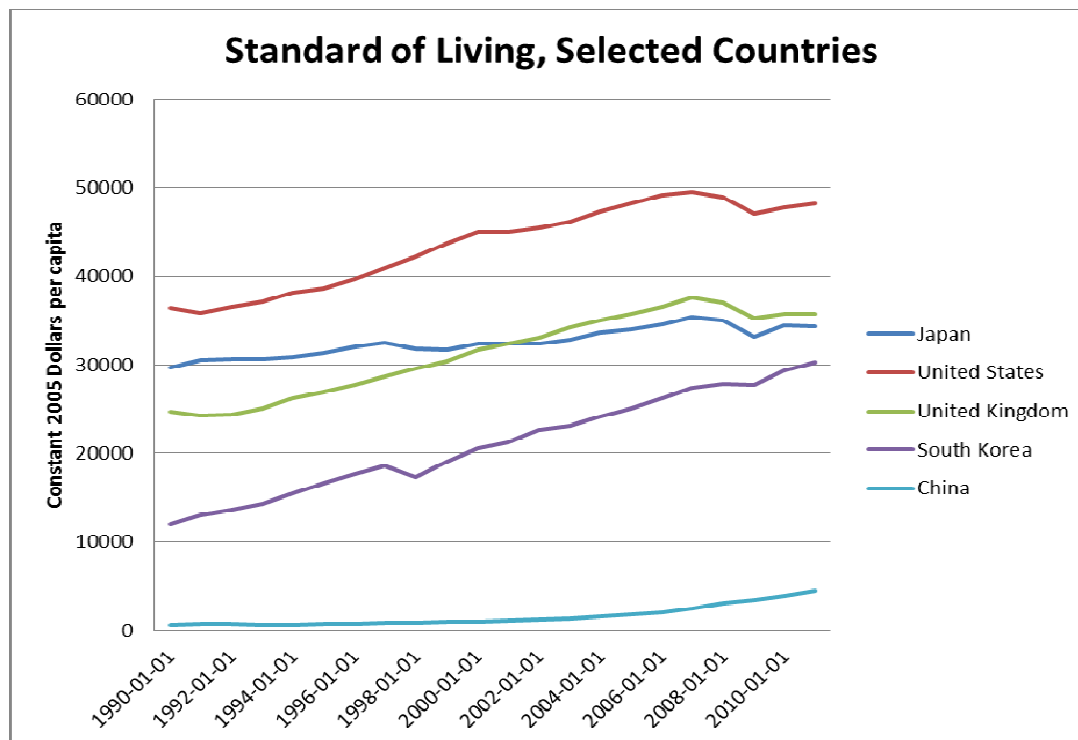
■ Data Sources, Related Articles, and Discussion Questions

A. For Information About Nominal and Real GDP

Data Sources

Bureau of Economic Analysis: http://www.bea.gov/ . BEA is an agency of the Department of Commerce. Along with the Census Bureau and STAT-USA, BEA is part of the department's Economics and Statistics Administration. BEA produces economic accounts statistics that enable government and business decision makers, researchers, and the American public to follow and understand the performance of the nation's economy. To do this, BEA collects source data, conducts research and analysis, develops and implements estimation methodologies, and disseminates statistics to the public.

Related Articles

Henderson, David R., "GDP Fetishism": http://www.econlib.org/library/Columns/y2010/HendersonGDP.html#. This article analyzes GDP's methodology and economists' reliance on such measure.

Discussion Questions

Do you think GDP is a good measure of individuals' well-being? Why or why not?

Answer: In general, there is some consensus about the fact that GDP is not a perfect measure of individual well-being. Many methodological (i.e., measurement) problems plague this approach to measuring economic activity (or a nation's income). However, the GDP measure has some advantages, like allowing cross-country comparisons and being highly correlated with other measures of individual welfare.

B. For Information About Inflation and Unemployment

Data Source

Bureau of Labor Statistics: http://www.bls.gov/. The Bureau of Labor Statistics is the principal fact-finding agency for the federal government in the broad field of labor economics and statistics. BLS is an independent national statistical agency within the Department of Labor that collects, processes, analyzes, and disseminates essential statistical data to the American public, congress, other federal agencies, state and local governments, business, and labor. BLS also serves as a statistical resource to the Department of Labor.

Related Article

Summers, Lawrence H., "Unemployment": http://www.econlib.org/library/Enc/Unemployment.html. This article discusses how unemployment is measured and how unemployment figures should be interpreted.

Discussion Question

Discuss the implications of a decrease in the official unemployment rate for teenagers.

Answer: The official unemployment rate is an average for all participants of the U.S. labor force. Although a decrease in the official unemployment rate might seem like good news for teenagers, one should check the unemployment rate for teenagers. The latter is usually higher than the former, meaning that teenagers suffer from higher unemployment rates than the rest of the population.

C. For Information About the Policy and Practice of Macroeconomics

Data Source

Information about macroeconomic variables (e.g., GDP, inflation, unemployment, savings rate) can be found at: http://research.stlouisfed.org/fred2/. This is a comprehensive database created and updated by the Federal Reserve Bank of St. Louis.

Related Articls

Library of Economics and Liberty search page:
http://www.econlib.org/cgi-bin/searchbooks.pl?query=scientific+method&andor=and (check the following authors: Mill, Marshall, and Say).

Discussion Question

What is the object of studying the science of economics in general and macroeconomics in particular?

Answer: In general, the science of economics studies how individuals (or societies) allocate scarce resources to multiple ends. This implies identifying the relevant constraints and preferences (including incentives) that guide our decisions. Macroeconomics deals with topics that affect the whole economy (e.g., the role of the government, economic growth, monetary economics, unemployment, and inflation). Macroeconomics' methodology is mostly borrowed from microeconomic analysis.

D. For Information About the Dating of Business Cycles

Data Source

The National Bureau of Economic Research: http://www.nber.org/. Founded in 1920, the National Bureau of Economic Research is a private, nonprofit, nonpartisan research organization dedicated to promoting a greater understanding of how the economy works. The NBER is committed to undertaking and disseminating unbiased economic research among public policymakers, business professionals, and the academic community.

Related Article

Krugman, Paul, "The Third Depression": http://www.nytimes.com/2010/06/28/opinion/28krugman.html.
In this article, Nobel Prize winner Paul Krugman describes the effects of the most recent recession and comments on the policy measures designed to reduce its adverse effects.

Discussion Question

Using data from the NBER, the BLS, and the BEA, characterize the 2007–2009 recession in terms of duration, changes in unemployment, inflation, and real GDP.

Answer: According to the NBER, the last recession lasted for 18 months: December 2007 until June 2009. During this period, unemployment increased from 5.0 percent to 9.5 percent, monthly inflation rates remained low (around 0.4 on average) and were negative at some point. Finally, real GDP dropped by 4.1 percent during the 18-month period.