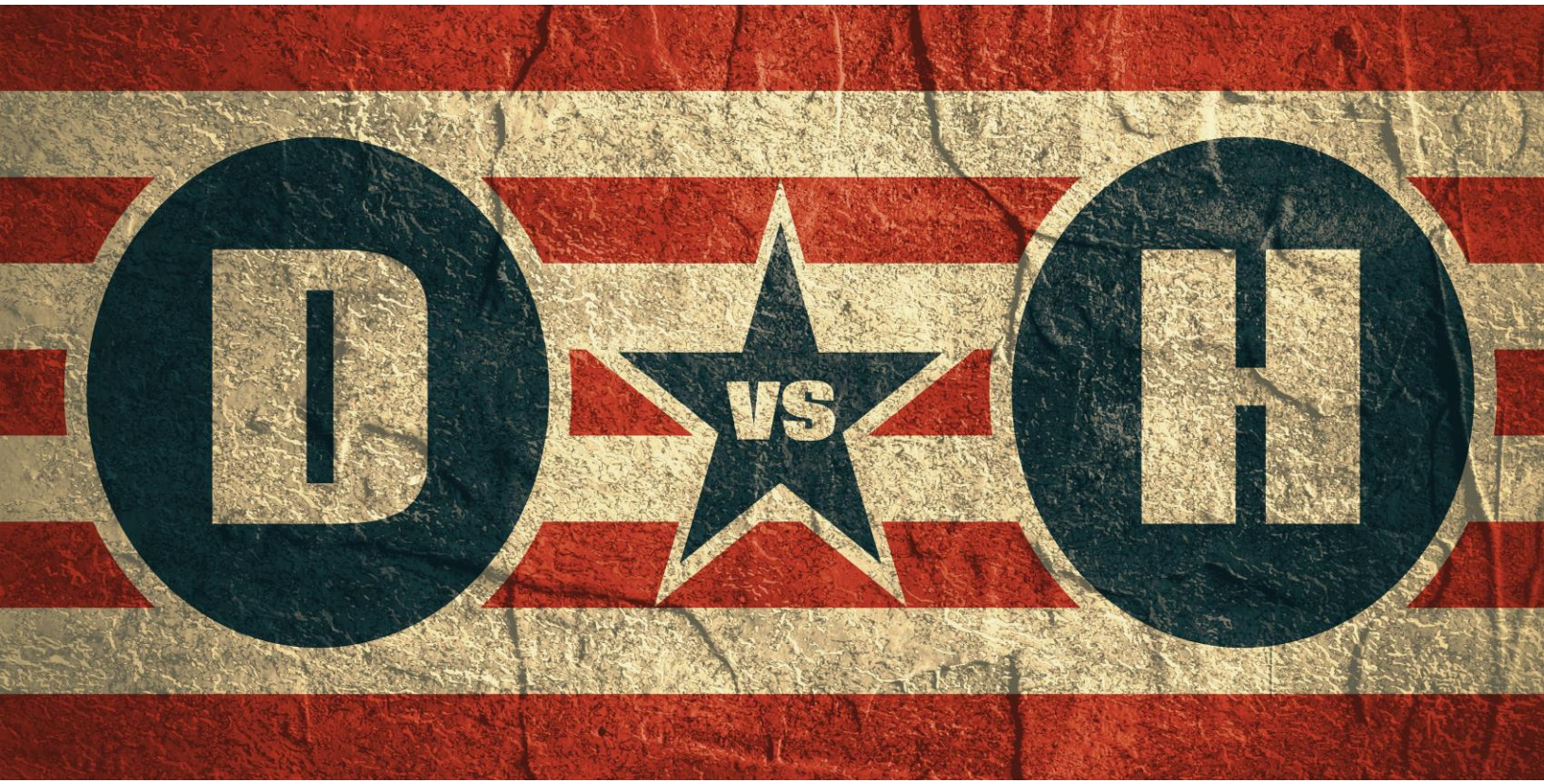

THE CLINTON vs. TRUMP DEBATE ON ECONOMIC GROWTH

A Citizen's Guide to the Issues

by

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Dedication

To Beck and Tommy

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PREFACE

This book is written for the person who wants to be informed about (1) the fundamental issues affecting the growth of the U.S. economy, and (2) the basic policy differences on these issues between the Democrat and Republican presidential candidates: Secretary Clinton and Mr. Trump. This book is a successor to my books: *The Obama vs. Romney Debate on Economic Growth: A Citizen's Guide to the Issues* (2012), and *Citizen's Guide to U.S. Economic Growth and the Bush-Kerry Economic Debate* (2004).

The core idea of this book grew out of a course I taught for several years at the University of Miami School of Law entitled *The Law and Public Policy of Economic Growth*. This course, which I periodically taught with Professor Tim Canova who is now with Nova Southwestern University School of Law, examined not only microeconomic concepts, which are frequently examined in law school courses, such as antitrust, but also macroeconomic concepts, which are not frequently examined in law schools. These macroeconomic concepts are important to all Americans because the application of these concepts by policy makers can have a significant impact on the growth of the U.S. economy, which determines the level of our standard of living. Thus, this book deals principally with the application of macroeconomic concepts to the important topic of economic growth. Also, the book addresses some microeconomic topics, such as the basic supply and demand curves and the policy justification for our antitrust laws. However, most of the book deals with various macroeconomic concepts that bear on economic growth, including employment, inflation, tax policy, fiscal policy, and monetary policy.

The book integrates into the discussion of the various topics the general positions Secretary Clinton and Mr. Trump have taken on the issues. Although I am a Democrat, my analysis of the positions of Secretary Clinton and Mr. Trump is based on my best judgment of the merits of the particular position, and not on a blind allegiance to the Democrat party.

In 2004, I first discussed the idea of integrating an analysis of the various economic principles with the positions of Bush and Kerry on these principles with Dr. Russell Vaught, a retired administrator of Penn State University. Russ immediately encouraged me to proceed with this idea. Without his immediate enthusiasm for the idea, I may not have undertaken the predecessors to this project back in 2004 and 2012.

For their work and helpful comments on this book, I want to say thanks to my research assistants at Penn State Law: Faisal Abbas Hirji, an undergraduate, and Matt Robida and Vasilios Vlahakis, both third year law students.

I also want to thank several others. First, for their work on the 2004 predecessor to this book, I want to again thank,

- Dan Davis my Research Assistant at the UCLA School of Law, who is now with the Skadden Arps law firm in Washington D.C., for his extremely helpful comments on all of the chapters in the prior edition;

- Robert A. Clary II of the McDermott Will law firm in Chicago, for his comments on the tax chapters of the prior edition; and
- Ed Thompson, my brother, a former administrator at Penn State, for his very helpful suggestions on the structure of the 2004 book.

Second, for their work on the 2012 edition of this book, I want to say thanks to the following:

- My Administrative Assistant at Penn State, Mary Beth Aber. Mary Beth always provides very efficient assistance in an uncommonly cheerful manner;
- My research assistants at Penn State Law: Stephen Anderson, Marc Boiron, Philip Farwell, and Stephanie Wilhelm. In addition to their excellent research assistance, each of these students read the whole book, or substantial parts of it, and gave me excellent comments and suggestions.
- My Penn State Undergrad Office Assistants: Tyler Abad and Jordan Freed. In addition to their regular office assistance work, both Jordan and Tyler read the whole book and gave me very helpful comments.
- Ellen Foreman, the Director of Marketing and Communications at Penn State Law. Ellen provided her usual expert advice on several aspects of this project.

In addition, I want to thank James Houck, the Dean of Penn State Law, for both his research support and encouragement.

Finally, thanks to the persons to whom this book is dedicated, my wife, Becky Sue Thompson, and our son, Samuel C. Thompson III (Tommy). They provide me with unparalleled love and moral support.

Samuel C. Thompson, Jr.
October 23, 2016

ABOUT THE AUTHOR

SAMUEL C. THOMPSON, JR.

October 23, 2016

Sam is Professor of Law and Director of the Center for the Study of Mergers and Acquisitions at Penn State Law. In addition to directing the Center, he teaches courses in mergers and acquisitions and tax law, including Corporate Taxation and International Taxation. Previously he was the Dean of the University of Miami School of Law; Professor of Law at the UCLA School of Law and the University of Virginia School of Law; Visiting Professor of Law at the Yale Law School; and Associate Professor of Law at the Northwestern University School of Law. He has been voted Teacher of the Year by students at the law schools at Miami and UCLA.

For many years Sam was the Partner in Charge of the Tax Division of the Schiff, Hardin & Waite law firm in Chicago. He has served in the U. S. Treasury's Office of Tax Legislative Counsel and International Tax Counsel, and he has worked in an advisory capacity with (1) the European Union's Antitrust Merger Taskforce in Brussels, Belgium, (2) the FTC's Bureau of Competition, and (3) the SEC's Office of Mergers & Acquisitions. In 1999 and 2000 he served, on behalf of the U.S. Treasury Department, as the Tax Policy Advisor to the South African Ministry of Finance in Pretoria, South Africa.

Sam is the author of numerous articles and books, including the following books:

- *Mergers, Acquisitions and Tender Offers* (5 Vols, Practising Law Institute, 2010, updated twice a year);
- *Business Planning for Mergers and Acquisitions* (Carolina Academic Press, 4nd Ed., 2015*)*;
- *Corporate Taxation Through the Lens of Mergers and Acquisitions* (Carolina Academic Press, 2nd 2016*)*;
- *International Tax Planning and Policy* (Carolina Academic Press, 2nd 2016*)*;
- *A Practitioner's Guide to the Economics of the Antitrust Merger Guidelines* (ALI-ABA, 1997); and
- *Taxation of Business Entities* (West Publishing, 2nd Ed., 2001).

Sam earned his law degree from the University of Pennsylvania in 1971 and his L.L.M. in Taxation from New York University in 1973. He received a Masters in Business and Applied Economics from the University of Pennsylvania in 1969 and a B.S. from West Chester University in 1965, where he played varsity football. From 1966 to 1969, Sam served in the United States Marine Corps, rising to captain and earning the Navy Commendation Medal, with combat V, for service in Vietnam. Sam and his wife Becky, have a ten year old son, Samuel C. Thompson, III (Tommy), who loves football even more than Sam.

PART I, INTRODUCTION

CHAPTER 1, WHAT IS THIS BOOK ABOUT?

A. For whom is this book written?

This book presents a citizen's guide to the major issues affecting growth of the U.S. economy, and the book also looks at some of the economic positions of the 2016 presidential candidates, Secretary Clinton and Mr. Trump. Further, the book presents my positions on many of the issues discussed. The book is written for the average person and not for the expert in economic matters.

B. Are there similar predecessor books?

This book was preceded by two similar books, written by Sam Thompson: *Citizens Guide to U.S. Economic Growth and the Bush-Kerry Economic Debate*, written in 2004, and *The Obama vs. Romney Debate on Economic Growth, A Citizen's Guide to the Issues,* which was written in 2012.

C. Why is this book in "Question and Answer" form?

To allow the reader to focus more clearly on the issue that is discussed, the title to each particular topic is stated in the form of a question that is then answered in the text. Some topics are addressed by an overarching question with several sub-questions.

D. Why the concern with economic growth?

Economic growth is one of the most significant issues facing U.S. citizens, because without economic growth, the average living standard will stagnate or even decline. Indeed, economic growth of the U.S. economy is necessary to provide better salaries for the current workforce and also future jobs for the nation's children. Thus, in one way or another, every citizen is affected by the economic growth of the U.S. economy.

Although the importance of U.S. economic growth is commonly understood by most Americans, as a result of the financial crisis of 2007-2008,, which led to a decrease in economic growth, Americans have become more keenly aware of the importance of economic growth to them and their families.

This book will give the reader a fundamental understanding of the most significant issues affecting economic growth. The book will discuss both the manner in which professional economists measure economic growth and the tools the government can utilize in attempting to promote economic growth. These tools fall into two broad categories: fiscal policy, which deals with taxation, spending, and the budget, and monetary policy, which deals with the control of the money supply and interest rates. Federal fiscal policy is controlled by Congress and the President, while monetary policy is controlled by the Federal Reserve Board (the Fed), whose current Chairman is Janet Yellen.

This book will demystify some of the economic jargon (1) used by professional economists, and (2) often used both in the written press and on the growing number of TV and radio shows devoted to analyzing the economy. The book will give the reader the tools needed to better understand the mass of data affecting economic growth and the analyses of the data that are provided daily. Also, links between various factors, such as the link between interest rates and the level of exports and imports, will be explored. The tools gained here will help the reader make better economic decisions, including better investment decisions.

Furthermore, since the book often frames the discussion in terms of the positions taken by the 2016 presidential candidates, Secretary Clinton and Mr. Trump, the reader will be able to better evaluate the policy positions of each candidate.

E. How is the book structured?

This chapter, which is in Part I, Introduction, addresses several fundamental economic concepts, including (1) a brief discussion of the meaning of the term "economics," (2) the role of government in the economy, (3) the differences between microeconomics and macroeconomics, and (4) an introduction to the goals of macroeconomic policy. The chapter also addresses the evidence on the relationship between (1) the party of the president, Democrat or Republican, and (2) the rates of economic growth and unemployment.

The balance of this book is divided into the following Parts:

- Part II, which addresses fundamental microeconomic and macroeconomic principles and their impact on economic growth;
- Part III, which looks at the impact on economic growth of (1) the 2007-2008 financial crisis; (2) the level of federal debt; (3) monetary and fiscal policy; and (4) the proposals of Secretary Clinton and Mr. Trump regarding these matters;
- Part IV, which considers the impact on economic growth of (1) education policy; (2) immigration policy; (3) income and wealth inequality; (4) regulatory policy; (5) antitrust policy; and (6) the proposals of Secretary Clinton and Mr. Trump regarding these matters;
- Part V, which examines the tax policies of Secretary Clinton and Mr. Trump;
- Part VI, which provides a short summary of the principles discussed in this book; and
- Part VII, which takes us from general economic principles to the impact of these principles on personal investment decisions;

Thus, Part II, which contains Chapters 2 through 11, discusses basic economic concepts relating to economic growth. Part III, which contains Chapters 12 through 17, discusses (1) several public policies that can have an impact on economic growth, and (2) the positions of Secretary Clinton and Mr. Trump on these policies. Part IV, which contains Chapters 18 to 22, addresses, *inter alia*, education policy, immigration policy and inequality. Part V, which contains Chapter 23, addresses the tax policies of Secretary Clinton and Mr. Trump. Part VI contains Chapter 24, which provides a summary of concepts covered in the preceding chapters and of the positions of Secretary Clinton and

Mr. Trump, and Part VII, which contains Chapter 25, addresses how the principles discussed in the earlier chapters can impact one's investment decisions.

Turning to Part II, Chapter 2 discusses the intuition behind the demand and supply curves of microeconomics. These curves are used in a graph with price on one axis and quantity demanded on the other. In a competitive market, the intersection of the two curves determines the quantity offered and the price charged. Graphs like this can be particularly helpful in organizing economic data and in providing models to promote clear thinking about economic relationships. Since graphs are employed throughout this book and in many cases the graph will be based on a supply and demand curve, this chapter introduces some basic principles in the utilization of graphs. The chapter also takes a first look at the concept of externalities, a topic addressed in greater detail in Chapter 21, which deals with regulatory policy.

Chapter 3 looks at some of the basic considerations affecting economic growth, including (1) the differences between nominal, real, and potential Gross Domestic Product (GDP), the principal tool for measuring economic growth; (2) the relationship between the standard of living and GDP; (3) the tradeoffs between inflation and unemployment; (4) the elements of economic growth; (5) the meaning of the concepts of a recession and a depression; and (6) the meaning of the term "supply side economics."

Chapter 4 examines in greater detail the concept of GDP. Each of the components of GDP, that is, consumption spending, investment spending, government spending, and net export spending, are examined in detail. Chapter 5 explores how GDP is tracked and projected.

Chapter 6 examines the aggregate demand (AD) and aggregate supply (AS) curves of macroeconomics. The chapter also explains how the AD-AS model is used in analyzing economic growth.

Chapters 7 and 8 deal, respectively, with the impact of economic growth on employment and on inflation; and Chapter 9 addresses the tradeoffs between economic growth, inflation, and employment.

Chapter 10 examines the expenditure multiplier, which shows that an increase in spending on any of the components of GDP will increase GDP by more than the amount of the expenditure, thereby, having a multiplying effect on GDP.

Chapter 11 focuses on the impact of international trade and investment on economic growth. This chapter, therefore, examines the impact of exports and imports. The chapter also presents the positions of Secretary Clinton and Mr. Trump on trade.

Turning to Part III, Chapter 12 focuses on the impact of the 2007-2008 Financial Crisis on economic growth. Thus, among other things, this chapter looks at the bust in the housing market, and the government's responses to the Crisis.

Chapter 13, a building block for an understanding of monetary policy, examines the concept of money and how the U.S. Treasury finances the government. Chapter 14 continues the look at monetary policy, with a view of how the Federal Reserve Board (the Fed) controls monetary policy and how that policy can impact economic growth. The chapter also looks at how the positions of Secretary Clinton and Mr. Trump on monetary policy would affect economic growth.

As will be discussed, fiscal policy involves the spending and taxing policies of the government. In considering a spending aspect of fiscal policy, Chapter 15 focuses on the Great Deficit Debate and how Federal budgetary policy affects economic growth.

Also, on the spending side of fiscal policy, Chapter 16 first looks at how Social Security and Medicare are structured, and then discusses how the proposals of the Deficit Commission, Congressman Ryan, Secretary Clinton, and Mr. Trump would affect these programs and their impact on economic growth. As will be seen in the discussion in Chapter 16, over the Congressional Budget Office's 2016 to 2026 projection period, Social Security spending is number one at $12.6 trillion; Medicare is number two at $9.6 trillion; and defense is number three at $6.4 trillion.[1] Consequently, policies regarding Social Security and Medicare account for a significant share of projected deficits.

Chapter 17 looks at various aspects of Obamacare, the term used to describe the 2010 health care legislation, which was supported by President Obama. The chapter looks at the basic structure of the law, the Supreme Court's decisions upholding the law, and the positions of Secretary Clinton and Mr. Trump on the law.

Turning to Part IV, Chapter 18 examines some of the considerations involving the impact of education on economic growth, and the positions of the candidates, and Chapter 19 looks at some of the economic issues dealing with immigration and the positions of the candidates on those issues. Chapter 20 looks at issues surrounding economic inequality and poverty, and the positions of the candidates in addressing these issues.

Chapter 21 looks at the approaches of the candidates to regulatory policy, which involves the use of regulations to address negative externalities, such as pollution.

Chapter 22 addresses a microeconomic issue: the role of the antitrust laws in promoting competitive markets over monopoly markets. The chapter also explores the positions of the candidates on these issues.

Part V deals with the tax (*i.e.*, revenue) side of fiscal policy, Chapter 23 looks at (1) the structure of the Federal Income Tax and the Federal Estate Tax, and (2) the policies of Secretary Clinton and Mr. Trump with regard to these taxes. The discussion includes an analysis of the positions of the candidates on, *inter alia*: (1) the adoption of the "Buffett Rule," and (2) the merits of the proposal by the House Ways and Means Committee to move the taxation of foreign business income to a territorial system, which would exempt such income from U.S. tax. The chapter also explores the merits of a value added tax (VAT) and the positions of the candidates on a VAT.

Part VI contains Chapter 24, which provides a summary of (1) some of the major concepts addressed in this book, and (2) the major positions of Secretary Clinton and Mr. Trump.

Part VII contains Chapter 25, which takes us from general economic principles to personal investment decisions. Chapter 25 discusses how the principles and policies discussed in this book, together with basic principles of finance, can assist a person in making investment decisions.

Finally, a bibliography and an index are provided at the end of the book. Many of the footnotes in the book refer to items in the bibliography, which has short-hand references to commonly referred to documents. Also, italicized terms used in the text are defined in the bibliography.

[1] *2016Budget and Economic Outlook*, *infra* Bibliography, at Table 3-1, page 64.

F. What's not in this book?

This book looks at only some of (1) the economic issues affecting economic growth, and (2) the positions of Secretary Clinton and Mr. Trump on these issues. For example, this book does not consider energy policy, and the book only touches on environmental regulation in Chapter 21, which deals with regulatory policy.

This book generally reflects developments through July 30, 2016, and the reader should understand that this book is only an introduction to the issues and is not intended to take a comprehensive look at any issue.

G. What is economics?

In exploring the concept of economic growth of the U.S. economy, we start by first looking at the meaning of the term "economics." One dictionary defines economics as a "social science concerned with the study of how society chooses to use scarce resources to satisfy its unlimited wants."[2] As a social science, economics is the study of human and societal behavior. The scarce resource principle applies to individuals, businesses, and governments; for each of these entities, the potential uses for financial resources, or the demands for these resources, far exceed the available financial resources, or the supply of these resources. Therefore, these entities make daily decisions on the allocation of scarce financial resources among alternative uses. For example, a father and mother must determine how to allocate the salary they receive (that is, their supply of financial resources) among the many potential uses the whole family has for the salary income (that is, the demands for the financial resources).

The dictionary goes on to say that "economics examines the costs and benefits of improving patterns of resource allocation" and that economics includes topics such as consumption, production, inflation, and unemployment. A less formal definition is that economics is the study of the financial decisions made by individuals and businesses. Individuals, for example, make decisions to buy product X rather than competing product Y, to buy a home rather than rent an apartment, or to invest in the stock of IBM rather than the stock of Microsoft. Businesses decide to produce a particular product in a particular amount and to offer the product for sale at a specified price. Businesses also decide whether to build a plant to manufacture a new product. These are just some of the financial decisions, or to be more precise, decisions having a financial impact, that are the subject of economic analysis.

H. Is economics a "moving" target?

Economics is very much a "moving" target. New developments and new insights occur every day. This book is not designed to be a comprehensive treatment of the issues; it is designed to introduce the basic concepts and to lay a foundation for understanding the changes that invariably will occur.

I. What is the role of government in the economy?

The role of government in the economy is of particular importance, because, among other things, government provides those public or collective goods (as distinguished from private goods) that private markets ordinarily do not provide. Public

[2] *Dictionary of Economics*, *infra* Bibliography, at 117.

goods include such items as defense, police, and roads. Government spending on most public goods has a direct effect on economic growth.

J. What are microeconomics and macroeconomics?

When economics focuses on such issues as how much of product X consumers will demand at various prices and how much the manufacturers of product X will be willing to sell at various prices, the analysis is said to be at a "micro" level, that is, microeconomic analysis. On the other hand, when economics focuses on such issues as the rate of change in the price level, that is, the rate of inflation or deflation in the economy, or the rate of unemployment, the analysis is at the "macro" level, that is, macroeconomic analysis. Thus, while microeconomics focuses on the behavior of consumers and firms in a particular market, such as the market for personal computers (PCs) or the market for new automobiles, macroeconomics focuses on the behavior of the entire economy, not just a particular market.

Although most of this book deals with macroeconomic issues, microeconomic analysis, particularly an understanding of the microeconomic concepts of the demand and supply curves, can be important in conducting macroeconomic analysis.

K. What are the principal tools of macroeconomic policy?

Analysis of economic growth principally involves the use of macroeconomic concepts, with a particular emphasis on the concepts of fiscal and monetary policy. These two macroeconomic tools are employed for the purpose of affecting economic performance and, therefore, the growth of the economy.

L. What are the goals of macroeconomic policy?

There are essentially three goals of macroeconomic policy (that is, of fiscal and monetary policy): spurring economic growth, achieving low unemployment, and ensuring low inflation. As explained in the *1999 Economic Report of the President*: "The Employment Act of 1946 [as amended by the Full Employment and Balanced Growth Act of 1978] . . . established a policy framework in which the Federal Government is responsible for trying to stabilize short-run economic fluctuations, promote balanced and noninflationary economic growth, and foster low unemployment."[3] The Report goes on to explain that although as of 1999 there had been many recessions (that is, periods of contraction in real GDP), since the adoption of this policy in 1946, there has been no economic contraction approaching that in the Great Depression, and further, the three longest expansions of the 20th Century occurred since the enactment of the Employment Act.[4] On the other hand, as noted in Chapter 12, the Financial Crisis of 2007 and 2008 led to the greatest recession since the Great Depression.

M. What is the relationship between microeconomics and macroeconomics?

In examining macroeconomic principles it is important to have a fundamental understanding of basic microeconomic principles, and for that reason Chapter 2

[3] *1999 Economic Report of the President*, *infra* Bibliography, at 21.
[4] *Id.*

introduces the often used supply and demand curves that are a standard part of the microeconomic analysis. After the discussion in Chapter 2 of supply and demand, Chapter 3 begins the examination of the macroeconomic concepts underlying economic growth.

N. What is the relationship between (1) the reelection of a president, and (2) economic growth and employment during the first term?

Sitting presidents generally are reelected when the economy is booming while they are in office. On the other hand, if the economy is performing poorly, sitting presidents generally have a more difficult time getting reelected. For example, during the Carter presidency, the economy performed poorly, and he lost his reelection bid to President Reagan. Also, during the first Bush presidency, the economy performed poorly and he lost his reelection campaign to President Clinton who ran on the slogan: "It's the economy, stupid."

On the other hand, during the first term of the Clinton presidency, the economy was doing well, and he won his reelection campaign against Senator Dole. Also, during the first term of the second Bush presidency, the economy was moving in the right direction and he defeated Senator Kerry. Further, the economy was on the mend during the first term of President Obama, and he defeated Governor Romney. During the election, President Obama basically argued that he has gotten the economy moving after the Great Recession, and Governor Romney argued that as a result of President Obama's policies, economic growth has been too slow and unemployment too high.

Thus, the electorate must generally believe that presidents make a difference in the generation of economic growth and employment even though they (1) do not control monetary policy, which is controlled by the Fed, and (2) are only partners with the Congress in adopting fiscal policy. When, during a presidency, at least one house of Congress is controlled by members of the opposing party, it can be very difficult for the president to get his fiscal policies enacted.

There is, however, the following different view, at least regarding the importance of the unemployment rate at the time of a presidential election:

> The average voter in the last two [presidential] elections [that is, Bush-Kerry in 2004 and Obama-McCain in 2008], . . . has not been representative of the broader economy [because only a small percentage of voters were unemployed]. [The average voter has] been in much better financial shape than the average American. That could help explain why there's such a low correlation between the unemployment rate and the odds of being re-elected. And if that pattern repeats during this November's election [between President Obama and Governor Romney], then what seems obvious today -- that the election will be about jobs, jobs, jobs -- might not be quite right.[5]

[5] Morgan Housel, *Presidents and the Unemployment Rate*, The Motley Fool (May 29, 2012) at http://www.fool.com/investing/general/2012/05/29/presidents-and-the-unemployment-rate.aspx.

O. Can a Democratic or Republican president make a difference from the standpoint of economic growth and employment?

While the previous question and answer demonstrate that the performance of the economy matters in a presidential election, this section focuses on whether a Democratic or Republican president can actually make a difference from the standpoint of economic growth and employment. In addressing this question, Tables 1-A and 1-B summarize the data in Table 1-C (set out at the end of this chapter) comparing the rates of economic growth and unemployment under Republican and Democratic presidents for the period 1949 through 2015**.**

Table 1-A
Summary of Data in Table 1-C Comparing Rates of Economic Growth under Republican and Democratic Presidents from 1949 through 2015

Party	Num. of & % of Yrs in Office with Negative Growth	Num. of & % of Yrs in Office with Positive Growth	Num. of & % of Yrs in Office with 0%-2% Growth	Num. of & % of Yrs in Office with 2%-4% Growth	Num. of & % of Yrs in Office with Over 4% Growth
Dem	3; 10.7%	28; 90%	1; 3.2%	12; 38.7%	15; 48.4%
Rep	7; 19.4%	29; 80.6%	5; 13.9%	14; 38.9%	10; 27.8%

Table 1-B
Summary of Data in Table 1-C Comparing Rates of Unemployment under Republican and Democratic Presidents from 1949 through 2015

Party	Num. of & % of Yrs in Office with Unempl. under 4%	Num. of and % of Yrs in Office with Unempl 4%-5%	Num. of & % of Yrs in Office with Unempl 5%-6%	Num. of & % of Yrs in Office with Unempl over 6%
Dem	5; 16.1%	5; 16.1%	9; 29%	12; 38.7%
Rep	2; 5.6%	8; 22.2%	13; 36.1%	13; 36.1%

On virtually all of these measures (which, without knowing the outcome, I had my research assistant develop),[6] Democratic presidencies outperform Republican presidencies. For example, Table 1-A demonstrates that during this period there was negative economic growth during 19.4% of the years a Republican was president, but only during 10.7% of the years a Democrat was president. On the other hand, the table demonstrates that while there was positive growth during 80.6% of the years a Republican was president, there was positive growth during 90% of the years a Democrat was president. Along these same lines, the table shows that while there was positive growth in excess of 4% during 27.8% of the years a Republican was president, there was positive growth above this level in 48.4% of the years a Democrat was president. On the other hand, Table 1-B shows that while the unemployment percentage was above 6% in 36.1% of the years a Republican was president, the percentage was 38.7% during the years a Democrat was president.

It must be emphasized that this is not a scientific sample, and the results could be impacted by the fact that during this sample period, Democrats were president for 31 years, while Republicans were president for 36 years. This discrepancy in the number of years in the presidency cuts both ways in the analysis. For example, this discrepancy could partially account for why Democrats had fewer years with negative growth. On the other hand, the discrepancy could understate the impact of the fact that even though they were in power for five years less than the Republicans, Democrats had more years with real GDP growth of over four percent (15 compared to 10) and more years with unemployment under four percent (5 compared to 2). In general, there has been more real GDP growth and less unemployment with Democratic presidencies than with Republican presidencies, rebutting the notion that Republicans are better for the economy.

These findings are consistent with a working paper by Professor Elliot Parker, which found that during the period from 1949 to 2005 Democrats grew the economy on average by 4.2%, while Republicans only grew the economy on average by 2.9%. Additionally, average unemployment under Democrats was 5.2%, while average unemployment under Republicans was 6.0%.[7] Professor Parker found that "the economy has grown significantly faster under Democratic administrations and more than twice as fast in per-capita terms."[8]

Professor Parker's paper, which was prepared prior to the election of President Obama, addresses as follows the possible explanations for this discrepancy between Democratic and Republican presidencies:

> If the economy has performed better under Democrats, what accounts for this difference? There are many possible hypotheses for this, including good (and, for Republicans, bad) luck, or a lagged effect which reduces, but does not reverse, the significance of the difference. Certainly there are limits to how much political leadership can affect the performance of the economy. But to the extent that Democrats have presided over a faster-growing economy and have affected economic growth, I

[6] I thank my research assistant, Stephen Anderson, a former student at Penn State Law for assembling the data and assisting with the analysis in the 2012 edition of this book. And, I thank my Penn State undergraduate research assistant, Faisal Abbas Hirji, for his assistance in extending the analysis through 2015.

[7] Elliot Parker, *Does the party in power matter for economic performance?* (Dec. 2006), at www.ssrrn.com.

[8] *Id*. at 1-2.

suggest a political attitude as much as any particular set of policies. Republicans are more likely to be economic fundamentalists who believe that government *is* the problem, and therefore see little reason to craft intelligent solutions to economic problems since government's real objective should be to just get out of the way. With such a coherent ideology, solutions are simple and easy to explain to voters, even when they are wrong. Democrats are more likely to believe that government, at least if it is *competent*, can actually fix many problems. Because they tend to believe that problems are complex, Democrats are more likely to heed expert advice. While this attitude may be harder to explain to voters, it usually leads to better policies.[9]

[9] *Id*. at 11-12.

Table 1-C
Comparison of Rates of Economic Growth and Unemployment under Republican and Democratic Presidents from 1949 through 2015: Percentages in Real Gross Domestic Product (GDP)

Year	Party	Negative Growth	1% to 2% Growth	2% to 4% Growth	Over 4% Growth	Unempl. Rate under 4%	Unempl. Rate 4%-5%	Unempl. Rate 5%-6%	Unempl. Rate over 6%
1949	D	-0.5%						5.9%	
1950	D				8.7%			5.3%	
1951	D				7.7%	3.3%			
1952	D			3.8%		3.0%			
1953	R				4.6%	2.9%			
1954	R	-0.6%						5.5%	
1955	R				7.2%		4.4%		
1956	R			2.0%			4.1%		
1957	R			2.0%			4.3%		
1958	R	-0.9%							6.8%
1959	R				7.2%			5.5%	
1960	R			2.5%				5.5%	
1961	D			2.3%					6.7%
1962	D				6.1%			5.5%	
1963	D				4.4%			5.7%	
1964	D				5.8%			5.2%	
1965	D				6.4%		4.5%		
1966	D				6.5%	3.8%			
1967	D			2.5%		3.8%			
1968	D				4.8%	3.6%			
1969	R			3.1%		3.5%			
1970	R		0.2%				4.9%		
1971	R			3.4%				5.9%	
1972	R				5.3%			5.6%	
1973	R				5.8%		4.9%		
1974	R	-0.6%						5.6%	
1975	R	-0.2%							8.5%
1976	R				5.4%				7.7%
1977	D				4.6%				7.1%
1978	D				5.6%				6.1%
1979	D			3.1%				5.8%	
1980	D	-0.3%							7.1%

Table 1-C Continued
Comparison of Rates of Economic Growth and Unemployment under Republican and Democratic Presidents from 1949 through 2011: Percentages in Real GDP

Year	Party	Negative Growth	1% to 2% Growth	2% to 4% Growth	Over 4% Growth	Unempl. Rate under 4%	Unempl. Rate 4%-5%	Unempl. Rate 5%-6%	Unempl. Rate over 6%
1981	R			2.5%					
1982	R	-1.9%							9.7%
1983	R				4.5%				9.6%
1984	R				7.2%				7.5%
1985	R				4.1%				7.2%
1986	R			3.5%					7.0%
1987	R			3.2%					6.2%
1988	R				4.1%			5.5%	
1989	R			3.6%				5.3%	
1990	R		1.9%					5.6%	
1991	R	-0.2%							6.8%
1992	R			3.4%					7.5%
1993	D			2.9%					6.9%
1994	D				4.1%				6.1%
1995	D			2.5%				5.6%	
1996	D			3.7%				5.4%	
1997	D				4.5%		4.9%		
1998	D				4.4%		4.5%		
1999	D				4.8%		4.2%		
2000	D				4.1%		4.0%		
2001	R		1.1%				4.7%		
2002	R		1.8%					5.8%	
2003	R			2.5%					6.0%
2004	R			3.5%				5.5%	
2005	R			3.1%				5.1%	
2006	R			2.7%			4.6%		
2007	R		1.9%				4.6%		
2008	R	-0.3%						5.8%	
2009	D	-3.5%							9.3%
2010	D			3.0%					9.6%
2011	D		1.7%						8.9%
2012	D			2.8%					8.1%

2013	D			2.2%					7.4%
2014	D			2.4%					6.2%
2015	D			2.4%				5.0%	

Sources: Depart of Commerce, Bureau of Economic Affairs, GDP Growth Based on Chained 2005 Dollars; Department of Labor, Bureau of Labor Statistics, Employment Status of the Civilian Non-institutional Population 16 Years and Older; and www.WhiteHouse.gov.

P. What economic proposals of Secretary Clinton and Mr. Trump are addressed in this book and where are the issues addressed?

Table 1-D contains a list of the economic proposals of Secretary Clinton and Mr. Trump that are addressed in this book.

Table 1-D
Economic Positions of Secretary Clinton and Mr. Trump Discussed in this Book,

TOPIC	**CHAPTER**
The minimum wage and other employment policies	7
Infrastructure spending proposals	10
Trade proposals	11
Financial Crisis proposals	12
Monetary Policy	14
The Deficit Debate	15
Social Security and Medicare	16
Obamacare	17
Education Policy	18
Immigration Policy	19
Inequality and economic growth	20
Regulatory Policy	21
Antitrust Policy	22
Tax Policy	23

This book integrates the discussion of basic economic principles with the discussion of the positions of Secretary Clinton and Mr. Trump on many of the issues. Table 1-D provides a summary of the topics covered in the chapters, with the discussions of the positions of the candidates on the issues set out in Table 1-D above, highlighted.

Table 1-E
Outline of the Economic Positions of Secretary Clinton and Mr. Trump Discussed in this Book, Chronologically by Chapter with the Discussions of the Candidate's Positions Highlighted

Chapter 1, Introduction and does the party of the president matter in determining economic growth?
Chapter 2, The supply and demand model, a building block
Chapters 3, 4, 5, and 6, Introduction to economic growth, GDP, and aggregate demand and supply
Chapter 7, Economic growth and employment, and the likely impact of the minimum wage and other employment policies of Secretary Clinton and Mr. Trump?
Chapters 8 and 9, Relationship between economic growth and inflation, and the tradeoffs among economic growth, inflation, and employment
Chapter 10, The Expenditure Multiplier, and the likely impact of the infrastructure spending proposals of Secretary Clinton and Mr. Trump
Chapter 11, International Trade and Investment, and the likely impact of the trade proposals of Secretary Clinton and Mr. Trump
Chapter 12, Impact on economic growth of the 2007-2008 Financial Crisis, and the likely impact of the proposals of Secretary Clinton and Mr. Trump
Chapters 13, 14, and 15, Introduction to monetary and fiscal policy and the Great Deficit Debate, and the likely impact of the proposals of Secretary Clinton and Mr. Trump
Chapter 16, Social Security and Medicare, and the likely impact of the proposals of Secretary Clinton and Mr. Trump
Chapter 17, Obamacare, and the likely impact of the proposals of Secretary Clinton and Mr. Trump
Chapter 18, Education Policy, and the likely impact of the proposals of Secretary Clinton and Mr. Trump
Chapter 19, Impact of immigration on economic growth, and the likely impact of the proposals of Secretary Clinton and Mr. Trump
Chapter 20, Impact of inequality on economic growth, and the likely impact of the proposals of Secretary Clinton and Mr. Trump
Chapters 21 and 22, Regulatory policy and antitrust policy, and the likely impact of the proposals of Secretary Clinton and Mr. Trump
Chapter 23, Tax Policy, and the likely impact of the proposals of Secretary Clinton and Mr. Trump 1. Introduction to the Federal Income Tax a. Individual b. Corporate c. Partnerships, LLC and Small Businesses d. International Tax, that is, U.S. taxation of U.S. owned foreign business operations, including Inversions 2. Proposals of Secretary Clinton and Mr. Trump on individual taxes

3. Proposals of Secretary Clinton and Mr. Trump on corporate and business taxes 4. Proposals of Secretary Clinton and Mr. Trump on international tax 5. Introduction to the Estate Tax 6. Proposals of Secretary Clinton and Mr. Trump on the estate tax
Chapter 24, Summary of major principles discussed in the book
Chapter 25, From economics to personal investment decisions

Q. What are some of the positions of Secretary Clinton and Mr. Trump that are not covered in this book?

Secretary Clinton has made many proposals that could potentially impact economic growth, and this book addresses the proposals highlighted in Table 1-D above. This book does not address the following proposals Secretary Clinton has made that could potentially impact economic growth:

- Profit sharing by workers;
- Guaranteed paid family leave;
- Expansion of Social Security and Medicare;
- Increase U.S. manufacturing;
- Making it easier to start a small business;
- Support for technology and innovation;
- Paid family leave and medical leave;
- Racial justice.

Each of these proposals is addressed on Secretary Clinton's campaign website.

Mr. Trump's website does not address as many issues as Secretary Clinton's website, and virtually all of the positions addressed on Mr. Trump's campaign website are addressed here.

R. What are some of the sources used in this book?

Several economic reports of various governmental agencies are relied on in this book, including the *2016 Economic Report of the President* for the Obama Administration, the *2008 Economic Report of the President* for the last year of the Bush Administration, and *The Budget and Economic Outlook: Fiscal Years 20162 to 2026* of the Congressional Budget Office (CBO), a nonpartisan agency that serves Congress. These and other documents periodically referred to in this book are included in the Bibliography. Also, the book discusses the economic policies set out on the websites of Secretary Clinton and Mr. Trump. To facilitate an understanding of many of the concepts discussed here, some of the answers contain substantial quotes from the applicable sources.

Table 1-F, *Economic Indicator Table*, contains a list of the major economic reports together with (1) the names of the agencies providing the reports, (2) the timing for the release of the reports, and (3) the websites of the reports.

Table 1-F
Economic Indicators Table
2016

Report and Corresponding Agency	Timing	Web Address
I. Economic Growth		
A. GDP, Bureau of Economic Analysis (BEA)	Monthly	http://www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm
B. Corporate Profits, See GDP Report (BEA)	Quarterly	http://www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm
C. GDP by Industry (BEA)	Quarterly	http://www.bea.gov/iTable/index_industry_gdpindy.cfm
D. Productivity and Cost, Bureau of Labor Statistics (BLS)	Quarterly	http://www.bls.gov/news.release/prod2.nr0.htm
E. Durable Goods, U.S. Census Bureau (Census)	Monthly	http://www.census.gov/manufacturing/m3/adv/pdf/durgd.pdf
F. Leading Indicators, The Conference Board	Monthly	https://www.conference-board.org/data/bcicountry.cfm?cid=1
G. Manufacturing Trade Inventories Sales (Census)	Monthly	http://www.esa.doc.gov/economic-indicators/economic-indicators-4
H. Recent General News Reports, See ECONOMIC INDICATORS NEWS DISCUSSION OF REPORTS		
II. Production and ISM Info		
A. ISM Manufacturing Report, Institute for Supply Management (ISM)	Monthly	https://www.instituteforsupplymanagement.org/ISMReport/MfgROB.cfm?&navItemNumber=12942#top
B. ISM Non-Manufacturing Report (ISM)	Monthly	http://www.ism.ws/ismreport/nonmfgrob.cfm
III. Employment		
A. National Employment Report, Automatic Data Processing (ADP)	Monthly	http://www.adpemploymentreport.com/2016/April/NFR/NFR-April-2016.aspx
Report and Corresponding Agency	**Timing**	**Web Address**
B. The Employment Situation, Bureau of Labor Statistics (BLS)	Monthly	http://www.bls.gov/news.release/pdf/empsit.pdf

C. Mass Layoffs, (BLS)	Monthly	http://www.bls.gov/news.release/mmls.nr0.htm
D. Unemployment Insurance Weekly Claims Report, Department of Labor (DOL)	Weekly	https://www.dol.gov/ui/data.pdf
IV. Consumers		
A. Personal Income and Outlays, (BEA)	Monthly	http://www.bea.gov/newsreleases/national/pi/pinewsrelease.htm
B. Monthly Sales for Retail,(Census)	Monthly	http://www.census.gov/retail/
C. Consumer Confidence, Conference Board	Monthly	http://www.conference-board.org/data/consumerconfidence.cfm
V. Inflation		
A. Consumer Price Index, (BLS)	Monthly	http://www.bls.gov/news.release/cpi.nr0.htm
B. Producer Price Index, (BLS)	Monthly	http://www.bls.gov/news.release/ppi.htm
VI. Housing		
A. New Residential Sales, (Census)	Monthly	http://www.census.gov/construction/nrs/pdf/newressales.pdf
B. New Residential Construction, (Census)	Monthly	http://www.census.gov/construction/nrc/pdf/newresconst.pdf
C. Existing Homes Sales, National Association of Realtors (Realtor)	Monthly	http://www.realtor.org/news-releases
D. Pending Home Sales Index (Realtor)	Monthly	http://www.realtor.org/news-releases
E. S&P Case Shiller HPI, S&P Dow Jones Indices (S&P)	N/A	http://us.spindices.com/index-family/real-estate/sp-case-shiller
VII. International		
A. U.S. International Trade in Goods and Services, (BEA and Census)	Monthly	http://www.census.gov/foreign-trade/Press-Release/current_press_release/ft900.pdf
B. U.S. International Transactions, (BEA)	Quarterly	www.bea.gov/newsreleases/international/transactions/transnewsrelease.htm
Report and Corresponding Agency	**Timing**	**Web Address**

C. U.S. Investment Position, (BEA)	Quarterly	http://www.bea.gov/newsreleases/international/intinv/intinvnewsrelease.htm
VIII. Federal Reserve Board Economic Materials		
A. Industrial Production and Capacity Utilization, Federal Reserve Board (FRB)	Monthly	http://www.federalreserve.gov/releases/g17/20160517/default.htm
B. Consumer Credit (FRB)	Monthly	http://www.federalreserve.gov/releases/g19/Current/
C. Factors Affecting Reserve Balances (FRB)	Weekly	http://www.federalreserve.gov/releases/h41/Current/
D. Money Stock Measures (FRB)	Weekly	http://www.federalreserve.gov/releases/h6/current/
E. Aggregate Reserves of Depository Inst and the Monetary Base (FRB)	Weekly	http://www.federalreserve.gov/releases/h3/current/
F. Assets and Liab of U.S. Commercial Banks (FRB)	Weekly	http://www.federalreserve.gov/releases/h8/current/
G. Assets and Liab of Foreign Banks, (FRB)	Quarterly	http://www.federalreserve.gov/econresdata/releases/assetliab/current.htm
H. Charge-Off Rates, (FRB)	N/A	http://www.federalreserve.gov/releases/chargeoff/
I. Delinquency Rates, (FRB)	N/A	http://www.federalreserve.gov/releases/chargeoff/
J. Country Exposure Lending, FFIEC	N/A	http://www.ffiec.gov/E16.htm
IX. Federal Deposit Insurance Corporation		
Report and Corresponding Agency	**Timing**	**Web Address**

A. Quarterly Banking Profile, Federal Deposit Insurance Corporation (FDIC)	Q	https://fdic.gov/bank/analytical/qbp/2016mar/qbp.pdf
X. Federal Reserve Board, Monetary Policy Releases		
A. Monetary Policy Report, (FRB)	Annually	http://www.federalreserve.gov/monetarypolicy/files/20160210_mprfullreport.pdf
B. Monetary Policy Testimony, (FRB)	Annually	http://www.federalreserve.gov/newsevents/testimony/yellen20160210a.htm
C. Federal Open Market Committee, Statement	N/A	http://www.federalreserve.gov/monetarypolicy/fomccalendars.htm
D. Federal Open Market Committee, Minutes	N/A	http://www.federalreserve.gov/monetarypolicy/fomccalendars.htm
XI. European Central Bank Monetary Policy Decisions		
A. Annual Report on Monetary Policy	Annually	See Major Economic Reports
B. Latest ECB Monetary Policy Decisions (European Central Bank)	N/A	https://www.ecb.europa.eu/press/pr/date/2016/html/pr160602.en.html
C. Press Release Q & A (ECB)	N/A	https://www.ecb.europa.eu/press/pressconf/2016/html/is160602.en.html

PART II, FUNDAMENTAL MICROECONOMIC AND MACROECONOMIC PRINCIPLES AND THEIR IMPACT ON ECONOMIC GROWTH

CHAPTER 2, WHAT IS THE INTUITION BEHIND THE DEMAND AND SUPPLY CURVES OF MICROECONOMICS?

A. What is in this Chapter?

This chapter introduces the basic supply and demand curves used in the examination of microeconomic markets, such as the market for personal computers. In a competitive market, the intersection of these two curves will indicate both the quantity consumed and the price. As indicated in Chapter 22, which addresses antitrust policy, this is not the case with monopoly markets, which give rise to a lower quantity consumed and a higher price. This chapter also introduces the concept of externalities, which are examined in greater detail in Chapter 21, which deals with regulatory policy.

Although the supply-demand analysis is basically a microeconomic concept, this type of analysis can be used in the context of macroeconomic analysis. For example, as discussed in this chapter, supply and demand factors determine the price of oil, and the price of oil can have an impact on economic growth, a macroeconomic issue. Also, as discussed in Chapter 11, supply-demand analysis is employed in the determination of the exchange rate of a floating currency, which is generally a macroeconomic issue.

B. What is behind the microeconomic supply and demand curves?

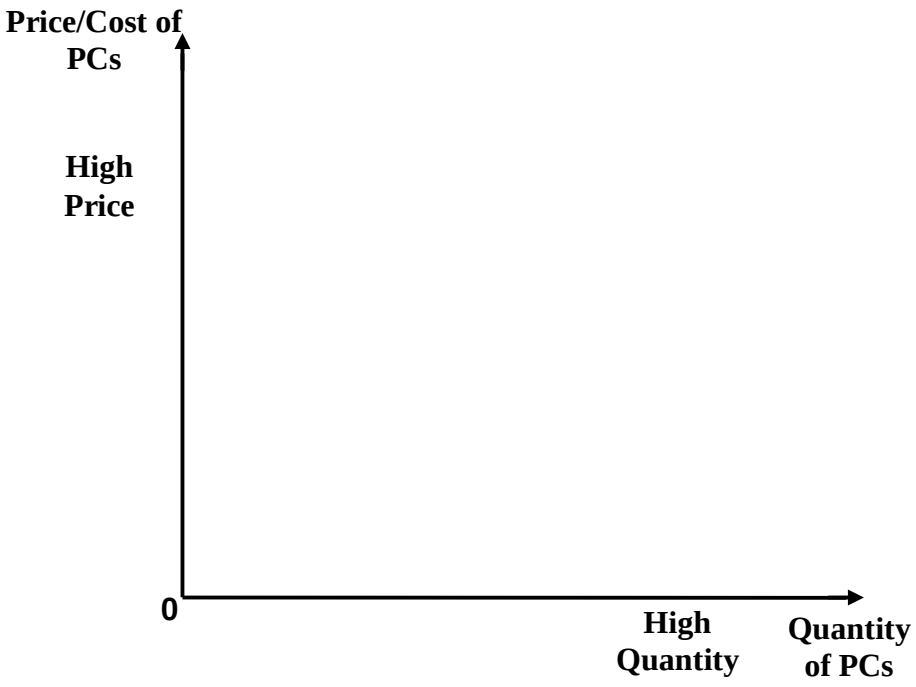
1. How is the supply and demand graph structured?

One of the fundamental tools of microeconomic analysis is the familiar two-axis graph of the demand curve and supply curve for the market for a particular product, such as the market for PCs. It is assumed that the market for PCs is a competitive market. As discussed in greater detail later, in a competitive market, no firm has control over the quantity offered or the price charged, and the intersection of the supply and demand

curve will give the price that will prevail and the quantity that will be sold in the market place.

A microeconomic market consists of a group of producers of a particular product sold in a particular geographic area. The producers represent the supply side of the market, and the potential consumers of the product reflect the demand side of the market. Graph 2-A sets out the two axes of the supply and demand graph for PCs; the demand and supply curves for PCs will be introduced next.

Graph 2-A
Illustration of Price/Cost Vertical Axis and Quantity Horizontal Axis for PCs



The quantity of PCs that could potentially be produced and sold is set out on the horizontal axis in Graph 2-A, and the potential prices to the consumer and the potential costs to the producers are set out on the vertical axis. Rightward movements along the horizontal axis mean that more PCs are sold, and upward movements along the vertical axis mean that the price or cost (depending on whether price or cost is being measured) of PCs is rising.

With an understanding of the quantity axis and the price/cost axis on Graph 2-A, it is important to develop an intuitive understanding of the normal behavior of the demand and supply curves on this graph.

2. What is the normal behavior of the demand curve?

The demand curve focuses on the consumer side of the market; it connects the plots on the graph that show how many PCs potential consumers of PCs would be willing to buy at particular prices. Given that price is measured on the vertical axis and that the quantity of PCs sold is measured on the horizontal axis, the normal demand curve is downward sloping from left to right. This indicates that at higher prices potential consumers will buy fewer PCs and that as the price of PCs falls potential consumers will buy more. It is important to note that the demand curve does not show the actual number of PCs that consumers buy; it shows the number of PCs that potential consumers would buy, or would demand, at different prices.

3. What is the normal behavior of the supply curve?

The supply curve focuses on the producer or firm side of the market and is dependent on the marginal cost, or incremental cost, potential firms in the market would incur in producing various quantities of PCs. The marginal cost is the cost incurred in making one additional item. As will be demonstrated in Chapter 22, which focuses on antitrust issues, the industry's supply curve is derived from the industry's marginal cost curve. It is important to understand that the cost here is not just the cost determined by accountants, but also includes the cost of capital to the firms. The cost of capital includes the interest on any debt of a firm used in production and the profits realized by the owners of the firm, that is, an adequate return on equity capital (dividends and capital gains) provided by the owners given the risk associated with the investment.

As will be demonstrated with a numerical example in Chapter 22, with the production of most goods, the average cost of producing an item will first fall as the firm experiences economies of scale and then will begin to increase as the firm, in producing more items, experiences diseconomies of scale resulting from increased average costs per unit. These increased costs arise, for example, when a plant is run near capacity and a second or third shift must be added at a wage rate of time and a half or double time. Given these initial economies of scale followed by diseconomies of scale, the marginal cost curve, which shows the marginal cost to the firm from a certain level of production, first falls from left to right as firms realize economies of scale and then rises from left to right as production increases and firms realize diseconomies of scale. The market supply curve is derived from the upward sloping segment of the marginal cost curve[10] and indicates that producers will be willing to sell more PCs as the price increases.

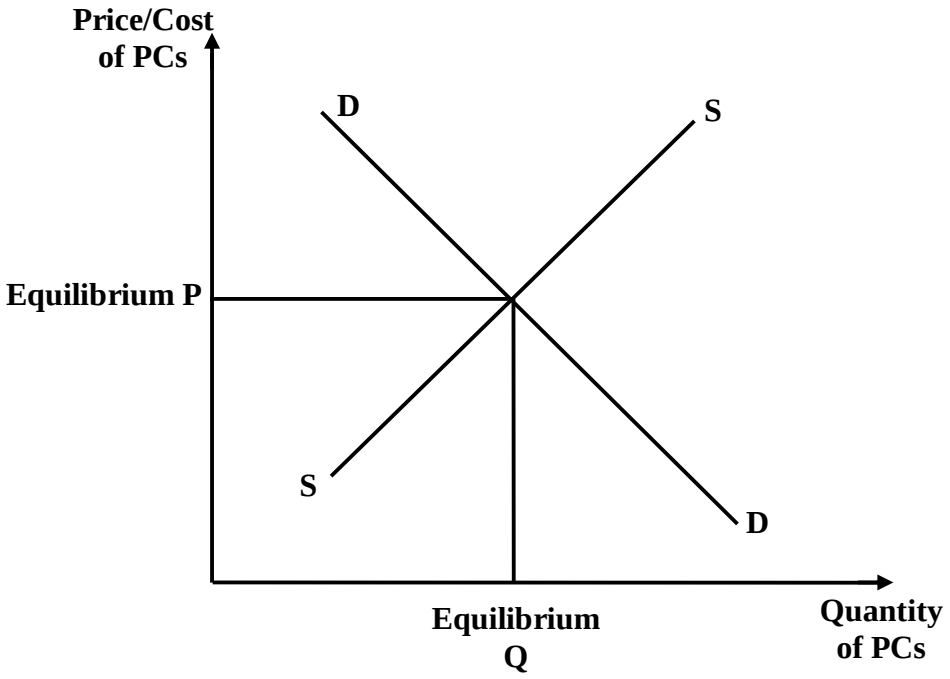
4. What is the role of supply and demand curves in competitive markets?

There are two polar extremes of market organization: the competitive market and the monopoly market. In a competitive market, there are many firms active in production in the market, no firm has any power over price, and the firms in the market do not form a cartel, pursuant to which they agree on prices or production. On the other hand, in a monopoly market, one firm controls all of the production in the market, and therefore, that firm has power over pricing and quantity decisions. Between these two extremes, there is a range of market structures, including an oligopoly market structure, which involves a market with a few producers. Oligopoly markets are generally more susceptible to the formation of cartels than are competitively organized markets.

In a competitive market, the price of the product and the amount of the product produced are determined by the intersection of the downward sloping demand curve and the upward sloping supply curve as indicated on Graph 2-B.

[10] Thompson, *Economics of the Antitrust Merger Guidelines*, *infra* Bibliography, at 95.

Graph 2-B
Microeconomic Model of Supply and Demand Curves in Competitive Market for PCs



Thus, in a competitive market, the intersection of the demand and supply curves determines the particular price that will prevail in the market (from the vertical axis) and the particular quantity that the firms in the market will produce (from the horizontal axis). This is known as an equilibrium position, because at this position, there will be no tendency for prices or quantity to move. If the price were higher than the equilibrium price, more of the good would be supplied than demanded, and therefore, the price would fall; on the other hand, if the price were lower than the equilibrium price, more of the good would be demanded than would be supplied and the price would tend to rise. Of course, in a dynamic market place, price and quantity will move, but if the market is competitively organized, the price and quantity will tend to move to an equilibrium point determined by the intersection of the supply and demand curves. This is not the case in a monopoly market, a point developed in detail in Chapter 22, which compares competitive markets and monopoly markets.

C. Does a competitive market lead to an efficient allocation of resources?

In a competitive market, the intersection of the supply and demand curves automatically leads to an efficient allocation of resources, because as seen in Graph 2-B, the price that prevails in the market is exactly equal to the marginal cost (reflected in the supply curve) of producing the item (recall that the cost includes the cost of capital, which includes profits). It can be shown that at this point the marginal cost to producers is exactly equal to the marginal utility (or benefit) to consumers. As seen in the

discussion below of externalities, this condition requires that all costs be properly reflected in marginal costs and the supply curve.

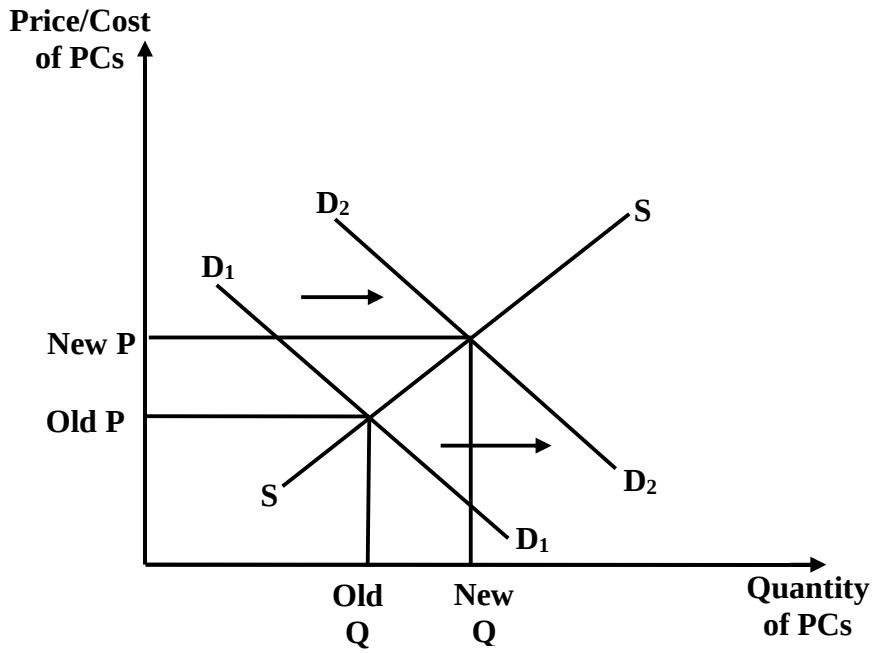
D. What is the difference between movements along a demand or supply curve and shifts in a demand or supply curve?

In thinking about the economic issues presented at various points in this book, it is important to distinguish between movements along a particular curve, such as the supply or demand curve, and shifts in the curve. This section explains that difference.

The demand curve is a depiction of the current state of consumer demand for the particular product, such as PCs. Thus, the demand curve is constructed on the assumption that (1) the number of consumers is constant, (2) the income of consumers is constant, (3) the taste (preferences) of consumers for the product and competing products is constant, and (4) the prices of other competing products are constant. As a consequence, movements along a demand curve for PCs shows the quantity of PCs consumers will demand keeping these factors (a change in any of which could affect the level of demand for PCs) constant. If any of these factors change, the demand curve for PCs would likely shift. For example, if the incomes of consumers were to increase dramatically, the demand curve for PCs would likely shift to the right, thereby indicating that more PCs would be demanded at every possible price. On the other hand, if consumers' tastes for PCs were to decrease suddenly because of the attractiveness of a new competing product, the demand curve for PCs would likely shift to the left, indicating that fewer PCs would be demanded at every possible price.

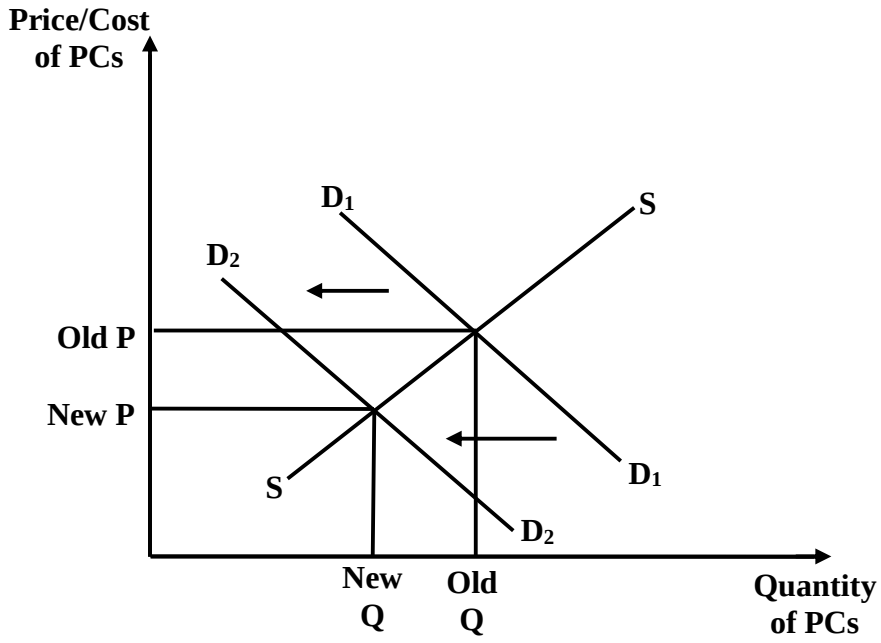
Assuming that there are no changes in the supply curve, a rightward shift in the demand curve will result in a movement of the equilibrium point that produces both an increase in production and an increase in price as is shown in Graph 2-C.

Graph 2-C
Illustration of Rightward Shift in the Demand Curve for PCs



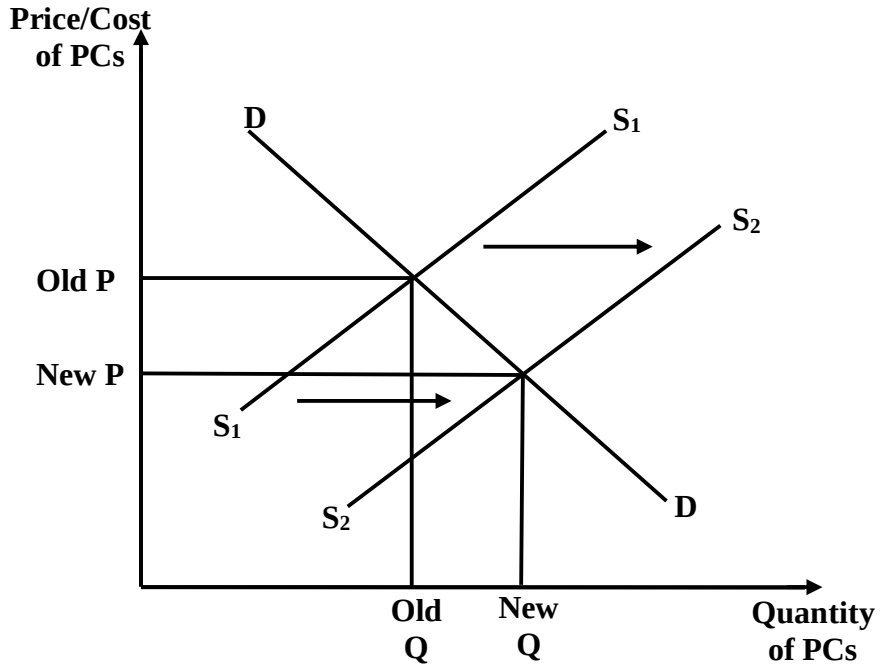
A leftward shift in the demand curve for PCs will move the equilibrium point thereby producing a lower price and a reduced output assuming the supply curve does not change. This is illustrated in Graph 2-D.

Graph 2-D
Illustration of Leftward Shift in the Demand Curve for PCs



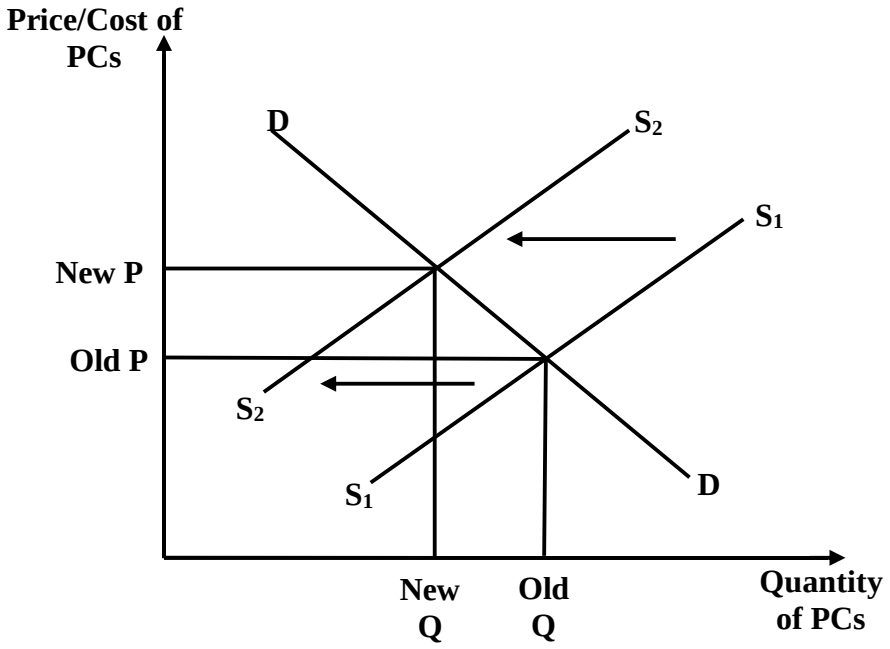
The supply curve is constructed under the assumption that (1) the state of know-how for the production of the particular product, such as PCs, is constant, and (2) the costs of production are constant. If there is a significant advance in the state of know-how that makes production of PCs more efficient, the supply curve will shift outward to the right, indicating that more PCs will be offered at every potential price. Assuming there is no change in the demand curve for PCs, a rightward shift in the supply curve will move the equilibrium point and thereby result in more production and lower prices, as indicated in Graph 2-E.

Graph 2-E
Illustration of Rightward Shift in the Supply Curve for PCs



A leftward shift in the supply curve for PCs could occur if, for example, there were dramatic increases in the prices of components that make up a PC, thereby driving up the production price. Assuming no change in the demand curve for PCs, a leftward shift in the supply curve would move the equilibrium point so that fewer PCs would be offered and the price would rise as indicated in Graph 2-F.

Graph 2-F
Illustration of Leftward Shift in the Supply Curve for PCs



E. What supply and demand factors in the oil market led to falling prices?

During early 2012, the price of oil was falling. The principles discussed previously in this chapter would lead to the conclusion that this fall in price is the result of one of the following three supply and demand factors: (1) an increase in supply, or (2) a decrease in demand, or (3) both an increase in supply and a decrease in demand.

The following posting entitled *Global Oil Supply and Demand* by Dr. Ed Yardeni indicates that the falling prices are attributable to both an increase in supply and a "flattening" of demand:

> [G]lobal supply rose to a record high . . . during February. OPEC's output rose to a new record high . . . Non-OPEC oil production edged up . . . just shy of its record . . . during September 2010. . . .
>
> In Canada oil output is at a record . . ., and in the US it's back at . . ., the highest since early 2002. The oil rig count in the US is soaring. It is up 57% over the past year to 1,317 during the week of March 16.
>
> Meanwhile, global oil demand flattened during February. . . . While oil demand rose to a record high for non-OECD countries, it has been trending downwards since last February among the OECD countries. In Western Europe, it dropped to the lowest since the summer of 1994.[11]

[11] Dr. Ed's Blog, *Global Oil Supply and Demand* (March 21, 2012), at

The 2016 Economic Report of the President makes the same point regarding the 2014-2015 decline in oil prices and the impact of that decline on economic growth:

> The oil-price decline from mid-2014 to the end of 2015 reflected both increased global supply of oil [*i.e.*, a rightward shift in the supply curve for oil], including rising production in the United States, Saudi Arabia, and Iraq, and slower global economic growth [*i.e.*, a leftward shift in the demand curve for oil]. It is difficult to precisely separate the role of supply and demand, but the comparison to non-energy commodity prices highlights the mix of factors affecting oil prices. Non-energy commodity prices also declined over this period—a sign of weakening global demand. But the non-energy commodity price decline of about 25 percent was considerably less than the about 65-percent decline in oil prices, pointing to the role of oil supply in lowering prices. Lower oil prices affect the U.S. economy through numerous channels (CEA 2014). On balance, CEA estimates that lower oil prices directly boosted real GDP growth by 0.2 percentage points during 2015, despite the adverse impacts on domestic energy producers and manufacturers that sell to the energy sector (see Box 2-1). Relatedly, the decline in oil prices noticeably held down price inflation and supported real income growth in 2015. Oil and commodity prices continued to fall sharply in early 2016 and are likely to continue to affect consumers and energy producers.[12]

F. What impact do externalities have on an industry's supply curve?

This section briefly addresses externalities, and Chapter 21 addresses the regulatory approaches of Secretary Clinton and Mr. Trump to negative or detrimental externalities. The industry supply curve developed previously reflects the marginal private costs incurred by the industry in the production process. However, there can be other societal costs generated in the production process that are not reflected in the industry's marginal private costs and, therefore, in the industry supply curve. Economists refer to these extra costs as externalities. Externalities can be both beneficial and detrimental. Chapter 21 focuses on detrimental externalities arising from market failure, which in this context means the failure of the market to internalize all of the cost of production.

http://blog.yardeni.com/2012/03/global-oil-supply-demand.html.

[12] *2016 Economic Report of the President*, *infra* Bibliography, at 53.

CHAPTER 3, WHAT DETERMINES ECONOMIC GROWTH?

A. What is in this Chapter?

This chapter lays the foundation for many of the issues discussed in subsequent chapters by exploring some of the basic considerations affecting economic growth. The chapter starts with a discussion of the differences between nominal, real, and potential gross domestic product (GDP) and then focuses on the relationship between the standard of living and GDP. After introducing the tradeoffs between inflation and unemployment, the chapter then considers various aspects of the business cycle. Next, the chapter turns to the elements of economic growth and to the role of productivity. Finally, after examining various factors in the debate on supply side economics, including the "Income Effect" and "Substitution Effect," the chapter focuses on the role of financial markets and inbound foreign investment (that is, investment into the U.S.) in the promotion of economic growth.

B. Basically what is GDP and its relationship to economic growth?

As addressed more completely in Chapter 4, GDP is the total amount spent, during for example a year, on final goods and services produced in the U.S. economy by labor and assets located in the U.S. In general, economic growth or the lack thereof is measured by increases or decreases in GDP.

C. What is the difference between nominal, real, and potential GDP?

Although the separate components of GDP are explored in detail in Chapter 4, it is important in understanding basic principles of economic growth to focus on the differences between nominal, real, and potential GDP. Nominal GDP is the amount of GDP measured in current dollars and is, therefore, not adjusted for inflation. On the other hand, real GDP is measured in inflation-adjusted dollars, and this adjustment process is explored in Chapter 4. Potential GDP is an estimate of the amount of real GDP that the economy is capable of producing under the assumption of full employment and full utilization of all resources. As will be seen below, the Congressional Budget Office annually provides an estimate of potential GDP. Comparing the performance of real GDP with potential GDP provides a measure of the performance of the economy, that is, whether it is under performing or over performing.

D. How is the standard of living tied to economic growth?

The standard of living is generally measured by the level of real GDP on both an aggregate basis and a per capita basis, that is, GDP divided by the population. Growth in real GDP is a key measure of economic growth and increases in the standard of living. It is a much better measure of economic growth than nominal GDP, because it takes account of the changing purchasing power of the dollar. Because of this changing purchasing power, it is possible for nominal GDP to increase at the same time that real GDP falls. Economic growth is generally measured by comparing the level of GDP in one period with the level of GDP in a prior period, usually a year or a quarter.

E. How can the "Rule of 70" be used to measure the impact of the growth rate of GDP?

Simple arithmetic demonstrates that even small changes in the growth rate of GDP can lead to large changes in the level of GDP and, consequently, the standard of living. For example, with a 2% growth rate of GDP, which has been the approximate rate in the U.S. over the past century, average GDP doubles every 35 years. This can be determined from the Rule of 70, which provides that the number of years required for income to double is determined by dividing 70 by the growth rate of GDP. Thus, if instead of a 2% growth rate, GDP grew consistently at a 4% rate, average GDP would double in just 17.5 years (that is, 70/4=17.5). Consequently, strategies that can increase the growth rate of GDP can increase the standard of living. In certain developing countries, such as China, the growth rate of GDP may approach 10%, which would mean that GDP would double in 7 years (that is 70/10=7).

F. What is the relationship between economic growth and (1) unemployment, and (2) inflation?

Chapters 7 and 8 deal, respectively, with the impact of economic growth on employment and inflation, and Chapter 9 addresses the tradeoffs that exist between economic growth and inflation and economic growth and employment. Here, it is only necessary to point out that unemployment generally declines during an economic expansion (that is, a period in which GDP increases) and generally increases during an economic contraction (that is, a period in which GDP decreases), whereas inflation generally increases during an expansion and generally falls during a contraction. Thus, there is a natural trade-off in which the cost of lower unemployment may be higher inflation.

G. What is a recession and a depression?

A recession is a period during which real GDP declines. The *1999 Economic Report of the President* points out that a "popular recession indicator is two consecutive quarters of decline in real GDP."[13] However, as the *Report* points out, the National Bureau of Economic Research (NBER), which is charged with determining the turning points of the business cycle, defines a recession as a "recurring period of decline in total output, income, employment, and sales usually lasting from 6 months to a year."[14] As a result of the financial crisis of 2007 and 2008, the country went into a recession, and in January 2012, the Congressional Budget Office (CBO) reported that the "pace of the economic recovery has been slow since the recession ended in June 2009 . . . ."[15] This recession is sometimes referred to as the Great Recession because it was the deepest recession since the Great Depression in the 1930s, which is discussed in the next paragraph.

A depression is a period during which there is a severe decline in GDP, resulting in severe unemployment. Although we have had many recessions since 1930, we have

[13] *1999 Economic Report of the President*, *infra* Bibliography, at 21.
[14] *Id.*
[15] *2012 Budget and Economic Outlook*, *infra* Bibliography, at xi.

had only one depression, the Great Depression of the early 1930s, in which GDP contracted by 30% and the rate of unemployment reached 25%.[16]

Prior to 2007, many observers argued that our economy is depression proof largely because of government payments like unemployment compensation that automatically increase as employment falls during an economic contraction. The Great Recession called into question this assertion.

H. What is the business cycle?

A review of the economic history of the U.S. from the Civil War to the present shows that the economy has moved in cycles going from periods in which the rate of growth of GDP was positive until reaching a peak and then negative until reaching a trough, at which point the cycle of positive and negative growth would begin again. This is known as the business cycle, which is characterized by periods of economic expansion followed by periods of economic contraction.

I. What has been the recent experience with the business cycle?

For example, the U.S. economy went into a recession in 1981 and 1982, with unemployment reaching close to 11%. The economy then began expanding in 1982, and during the expansion the unemployment rate fell to approximately 5.5%. The economy then entered a recession in 1990 and 1991, which contributed significantly to the defeat of the first President Bush and to the election of President Clinton. There was a long economic expansion during President Clinton's two terms with the expansion continuing until the middle of 2000 and the unemployment rate falling to a low point of 3.9%, the lowest rate since 1970. Economic growth slowed considerably from 2000 to 2003, and began to grow rapidly until hitting the wall in 2007 with the Great Recession. Growth since the end of the Great Recession in 2009 has been anemic, as indicated in the following report of the CBO:

> The financial crisis that began in 2007 and the decline in house prices that began a year earlier had a sharp impact on the U.S. economy, nearly freezing credit markets and pushing the economy into the most severe recession since World War II. International experience shows that downturns following such crises tend to last longer than other downturns, and the return to high employment tends to be slower. It also shows that such recessions—more so than other recessions— dampen investment, raise the level and average duration of unemployment, and reduce the number of hours that employees work.[17]

J. How do recessions lead to expansions and vice versa?

Recessions lead to expansions through the following general process. The reduction in the growth rate of GDP during a recession causes industrial production to fall, thus causing a fall in capacity utilization. Somewhat counter intuitively, this fall in capacity utilization results in an increase in labor productivity, because less labor will be used per unit of output. This leads to a fall (or a slower increase) in producer prices, which in turn will cause a fall (or slower increase) in consumer prices. As a result,

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[16] *1999 Economic Report of the President*, *infra* Bibliography, at 21.
[17] *2012 Budget and Economic Outlook*, *infra* Bibliography, at 44.

consumer sentiment begins to increase leading to an increase in consumer demand, which will help generate an expansion.

On the other hand, expansions lead to recessions through the following general process. An increase in GDP during an expansion causes industrial production to increase, leading to an increase in capacity utilization. Again, somewhat counter intuitively, with higher capacity utilization, labor productivity declines causing an increase in labor costs per unit of output. One factor contributing to this decrease in labor productivity is the higher wages that are paid as production increases and businesses add additional shifts at higher per-hour labor rates. As a result, prices of producers begin to rise, which leads to an increase in consumer prices. Increasing consumer prices leads to a decrease in consumer sentiment that in turn leads to a decrease in consumer demand. With falling consumer demand, businesses begin to cut back their production and the economy slows and possibly enters into a recession.

Recessions can also result from a financial crisis, such as the financial crisis in 2007 and 2008, which is discussed in greater detail in Chapter 12.

K. What is the role of the NBER in determining when recessions begin and end?

The National Bureau of Economic Research (NBER) is responsible for determining when recessions begin and end. The NBER's Business Cycle Dating Committee, which is responsible for making the determinations, describes recessions, expansions, and its process as follows:

> The NBER's Business Cycle Dating Committee maintains a chronology of the U.S. business cycle. The chronology comprises alternating dates of peaks and troughs in economic activity. A recession is a period between a peak and a trough, and an expansion is a period between a trough and a peak. During a recession, a significant decline in economic activity spreads across the economy and can last from a few months to more than a year. Similarly, during an expansion, economic activity rises substantially, spreads across the economy, and usually lasts for several years.
>
> In both recessions and expansions, brief reversals in economic activity may occur-a recession may include a short period of expansion followed by further decline; an expansion may include a short period of contraction followed by further growth. The Committee applies its judgment based on the above definitions of recessions and expansions and has no fixed rule to determine whether a contraction is only a short interruption of an expansion, or an expansion is only a short interruption of a contraction.[18]

[18] The NBER's Business Cycle Dating Committee, at http://www.nber.org/cycles/recessions.html (April 7, 2012).

L. What are the elements of economic growth?

1. What are the elements of the production function?

Economists explain the concept of economic growth by focusing on the key ingredients of what they refer to as the production function. The production function is merely a way of identifying the elements of production in an economy. Basically, the production function states that the level of GDP is a function of (that is, is dependent upon) certain key elements. These key elements can be divided into the following four factors: entrepreneurship, capital, labor, and technical know-how.

2. What is the entrepreneurship element of the production function?

First, for new businesses to grow and for old businesses to expand, there must be a constant flow of new entrepreneurs that foresee opportunities and are the driving force behind the pursuit of new ventures. Without entrepreneurship and the inventiveness it brings both for newly established firms and for existing firms, there can be no economic growth.

On April 5, 2012, President Obama emphasized the importance of entrepreneurship when he signed the bipartisan JOBS Act, which liberalized the rules governing the capital raising process for small businesses. On this point, the President said:

> One of the great things about America is that we are a nation of doers -- not just talkers, but doers. We think big. We take risks. And we believe that anyone with a solid plan and a willingness to work hard can turn even the most improbable idea into a successful business. So ours is a legacy of Edisons and Graham Bells, Fords and Boeings, of Googles and of Twitters. This is a country that's always been on the cutting edge. And the reason is that America has always had the most daring entrepreneurs in the world. Some of them are standing with me today. When their ideas take root, we get inventions that can change the way we live. And when their businesses take off, more people become employed because, overall, new businesses account for almost every new job that's created in America. [19]

3. What is the capital element of the production function?

a) How do businesses get access to capital for "real" investment?

Second, businesses must have access to capital to provide financing for investments in plant and equipment (that is, real investment as distinguished from investments in the financial markets) and to provide the funds for the research and development that is necessary to keep businesses competitive. Thus, growth in the pool of capital is essential to economic growth. This point was made as follows by President Obama when he signed the previously discussed JOBS Act:

[19] Remarks by President Obama at JOBS Act Bill Signing (April 5, 2012).

> [N]o matter how good their ideas are, if an entrepreneur can't get a loan from a bank or backing from investors, it's almost impossible to get their businesses off the ground. . . .
>
> Here's what's going to happen because of this bill. For business owners who want to take their companies to the next level, this bill will make it easier for you to go public [that is, sell stock of a closely-held corporation to public investors]. And that's a big deal because going public is a major step towards expanding and hiring more workers. It's a big deal for investors as well, because public companies operate with greater oversight [from the Securities and Exchange Commission (SEC] and greater transparency [through SEC required public disclosures].
>
> And for start-ups and small businesses, this bill is a potential game changer. Right now, you can only turn to a limited group of investors -- including banks and wealthy individuals -- to get funding. Laws that are nearly eight decades old make it impossible for others to invest. But a lot has changed in 80 years, and it's time our laws did as well. Because of this bill, start-ups and small business will now have access to a big, new pool of potential investors -- namely, the American people. For the first time, ordinary Americans will be able to go online and invest in entrepreneurs that they believe in. Of course, to make sure Americans don't get taken advantage of, the websites where folks will go to fund all these start-ups and small businesses will be subject to rigorous oversight [by the SEC].[20]

b) What is the relationship between "real" investment and economic growth?

There is a strong correlation between real investment (that is, investment in plant and equipment) and economic growth, because it is virtually impossible to see substantial growth without substantial real investment. Although it is unclear whether a high real investment rate leads to high growth or whether high growth leads to high real investment, most economists seem to agree that higher real investment causes higher growth. However, it is also clear that a business that experiences higher sales is more likely to expand its capital base, that is, its real investments. Further, as discussed in Chapter 4 in the analysis of the investment component of GDP and in Chapter 14, which deals with monetary policy, low interest rates act as an incentive for businesses to invest in additional plant and equipment.

4. What is the labor element of the production function?

Third, new labor will be required, meaning that there must be increases in the pool of available labor. A contraction in the U.S. population would be a contributing factor to a reduction in the growth rate of the U.S. economy. In addition to population numbers, in many cases, particularly with new ventures, the labor pool must be highly educated and skilled, meaning that there must be growth in the education and training (that is, the human capital) of the labor pool.

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[20] *Id.*

In analyzing this growth factor, both the Clinton and Bush *Economic Reports of the President* broke the labor factor into the following elements: population, labor force participation, labor productivity, and the workweek.[21] Obama's *2012 Economic Report of the President* includes this labor factor with "supply side" factors as follows: "The factors include the population, the rate of labor force participation, the employed share of the labor force, the ratio of nonfarm business employment to household employment, the workweek, labor productivity, and the ratio of real GDP to nonfarm output."[22]

5. What is the technical progress element (Total Factor Productivity, TFP) of the production function?

Finally, there must be technical expertise or technical know-how behind the production process, and this means that there must be growth in technical know-how. Stated another way, there must be technical progress. The rate of improvement in technical progress is referred to as the growth of total factor productivity (TFP), which is a measure of the rate at which GDP would increase as a result of improvements in methods of production, with all other inputs unchanged. TFP is a more elaborate way of focusing on the productivity of the U.S. economy.

Some economists have attempted to determine the relevant percentages of the annual growth in GDP that are attributable to each of these factors of production.

M. How does productivity affect economic growth?

The CBO's *2004 Budget and Economic Outlook* makes it clear that productivity growth can contribute significantly to economic growth:

> The most striking economic development of the past three years has been the robust growth of labor productivity (real output per hour of labor). Productivity is crucial in determining CBO's estimate of potential GDP, with which actual GDP is assumed to converge over the medium term. The unexpectedly vigorous growth of productivity in recent years, and especially in 2003, has led CBO to revise its forecast and medium-term projection of the levels of both GDP and potential GDP.
>
> After the rapid rise in productivity in the late 1990s and 2000--itself an unusual phenomenon in the later stages of an expansion--a period of slower-than-average growth might have been expected. Instead, labor productivity has soared, climbing in 2003 at an annual rate of 2.2 percent in the first quarter, 7.1 percent in the second quarter, and 9.3 percent in the third quarter. Moreover, the average rate of growth for the two years ending in the third quarter of 2003--5.6 percent--was higher than the rate for any previous eight-quarter span since 1950.
>
> In the context of the business cycle, productivity growth is typically strong during recoveries and the early part of expansions . . . .[23]

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[21] *2004 Economic Report of the President*, *infra* Bibliography, at 98 and 1999 *Economic Report of the President*, *infra* Bibliography, at 84.
[22] *2012 Economic Report of the President*, *infra* Bibliography, at 76.
[23] *2004 Budget and Economic Outlook*, *infra* Bibliography, at Economic Outlook.

N. What is the CBO's assessment of the impact of the Capital, Labor, and TFP elements of economic growth over the period of 2016 to 2026?

The CBO's *2016 Budget and Economic Outlook* gives the following assessment of the impact of the capital, labor and TFP elements on the rate of economic growth for the period, 2016 through 2026:

> *Lingering Effects of the Recession and Slow Recovery*. CBO expects the three major factors that determine potential output to be lower through 2026 than they would have been if not for the recession and slow recovery.
>
> Potential ***labor*** hours will be lower because persistently weak demand for workers since the recession has led some people to weaken their attachment to the labor force permanently. For example, some people who left the labor force after experiencing long-term unemployment are not expected to return to full-time, stable employment over the next decade. The rate of labor force participation will thus be slightly lower—and the labor force slightly smaller—than it would have been otherwise.
>
> ***Capital*** services also will be lower for several reasons. Fewer workers require proportionately less capital, all else being equal, and lower TFP (discussed below) tends to reduce investment as well. Because of automatic stabilizers and changes in fiscal policies implemented to bolster the economy during and after the recession, federal debt increased sharply. That higher debt will crowd out additional capital investment in the long term, CBO estimates.
>
> Finally, in CBO's judgment, the protracted weakness in the economy and the large amount of slack in the labor market have lowered—and will continue to lower— potential ***TFP***. They will do so by reducing the speed and efficiency with which resources are allocated to their most productive uses, thereby slowing the rate at which workers gain new skills and restraining businesses' spending on research and development.
>
> How the recession and slow recovery will continue to affect those three factors is difficult to quantify with any precision. For instance, significant uncertainty surrounds estimates of how much of the recent weakness in TFP can be traced to the effects of the recession and slow recovery on potential TFP and how much reflects other developments in the economy. (For example, the rate of improvement in information technology may have begun to slow a few years before the recession began.)[24]

O. What government policies can help generate economic growth?

Economic growth is affected by both monetary and fiscal policy, which are explored in greater detail in subsequent chapters. As indicated in Chapter 14, the Federal Reserve Board controls monetary policy and the level of short-term interest rates, which in turn affect the level of long-term interest rates. Low interest rates can contribute to economic growth by encouraging the financing of investment and consumer spending. However, low interest rates can also cause the economy to overheat and generate an unacceptable level of inflation.

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[24] *2016 Budget and Economic Outlook*, *infra* Bibliography at 51-52.

Several fiscal policies, which as indicated in Chapters 15 through 18 are controlled by Congress and the President, can contribute to economic growth. These include:

(1) increased investment in infrastructure, *see* Chapter 10;
(2) tax incentives to promote R&D, *see* Chapter 23;
(3) spending on education and training, *see* Chapter 18;
(4) reductions in ineffective and unnecessary regulation, *see* Chapter 21; and
(5) reductions in the government's budget deficit, which should have the effect of increasing private investment, *see* Chapter 15.

P. What is "Supply Side" economics?

1. What is the basic premise of "Supply Side" economics?

Supply side economics, which was prominent at the beginning of the Reagan Administration in the early 1980s, argued that economic growth would be increased by policies that promote greater economic efficiency, reduce regulation, and increase the incentives for work and investment. These policies are referred to as supply side initiatives because they are designed to shift the aggregate supply curve (*see* Chapter 6) outward to the right and thereby increase GDP without increasing inflation. These policies are distinguished from demand side policies that are designed to shift the aggregate demand curve (*see* Chapter 6) outward to the right. Potential shifts in the aggregate supply and aggregate demand curves are analyzed in Chapter 6 and subsequent chapters.

2. What is the "Laffer Curve" theory of supply side economics?

Some supply siders, specifically those who subscribe to the theory of the Laffer Curve, which is named after a strong proponent of supply side economics, took the controversial view that cutting taxes to a certain level would reduce rather than increase the deficit, because lower tax rates would lead to extra work that would increase tax receipts and thereby reduce the budget deficit. Although there is no empirical support for this proposition, there seems to be at least some empirical support for the following propositions of more conventional supply siders: (1) Increased incentives to work will increase the input of labor (this assumption is based on analysis of the income effect and the substitution effect discussed below), (2) Increased incentives to save and invest will make more capital available, and (3) Reduced regulation may lead to an increase in economic efficiency (see the discussion below of deregulation).

3. What was the experience with the "Laffer Curve" theory in the Economic Recovery Tax Act of 1981 (ERTA)?

The theory of the Laffer Curve was reflected in the Economic Recovery Tax Act of 1981 (ERTA), which adopted many of the proposals of the Reagan Administration to substantially reduce tax rates. Supply side tax cuts generally are directed at reducing the personal income tax, taxes on income from savings, taxes on capital gains, and the corporate income tax, with the purpose of shifting the AS curve to the right. ERTA reduced most of these taxes; however, the tax cuts do not appear to have significantly raised work effort. Indeed the ERTA led to substantial reductions in tax collections and

as a result the deficit grew. Congress responded by increasing taxes in 1984 in the Deficit Reduction and Fiscal Responsibility Act of 1984 (DEFRA). In addition, the Bush tax cuts discussed in Chapter 23, which were based in part on theories similar to the Laffer Curve, have contributed to the bulging deficit.

4. Are Trump's proposals based on the Supply Side theory?

As will become apparent in the discussion of tax policy in Chapter 23, many of the economic proposals of Mr. Trump are based on the Supply Side theory. For example an article entitled *Trump's Shotgun Marriage of Populism and Supply-Side Economics*, which commented on Mr. Trump's August 2016 Detroit speech on economics, argues:

> [M]uch . . . of Trump's speech was targeted not at the average American but at corporations and high earners, with many of the ideas borrowed from the standard Republican playbook of supply-side economics. (Trump specifically positioned himself as continuing Ronald Reagan's legacy.) For example, he proposes eliminating the estate tax, which would not help many blue-collar workers, though it might benefit [Trump's children] Donald Jr., Ivanka, Eric, Tiffany, and Barron.[25]

And, an article in Bloomberg Politics reports that Trump has "sought advice from some of the most notable names in Reaganomics, including Arthur Laffer, Larry Kudlow and Stephen Moore."[26]

Q. How does the "Income Effect" and "Substitution Effect" apply in analyzing the impact of tax cuts on the supply of labor?

The economic concepts of income effects and substitution effects are helpful in analyzing the impact of lower taxes on incentives to work. These concepts are also used in performing other economic analyses. For people who are already in the labor force, a reduction in taxes has two effects: an income effect and a substitution effect. The reduction in taxes increases the after-tax incomes of those already working and, therefore, through the income effect encourages more time devoted to leisure, because higher after-tax incomes generally encourage time devoted to leisure (that is, more income, less work and more time at the beach).

However, for these workers, the higher incomes also have a potential substitution effect, because the higher income resulting from lower taxes may encourage more work, or a substitution out of leisure and into work (that is, the more income I take home, the more I will work rather than go to the beach). Thus, for those in the labor market, a reduction in the taxes on wage income, which increases the income from work, will (1) through the income effect encourage workers to increase their leisure, and (2) through the substitution effect encourage workers to reduce leisure and increase work. Although those who take a "strong form" view of supply side economics believe that the substitution effect associated with tax

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[25] David A. Graham, *Trump's Shotgun Marriage of Populism and Supply-Side Economics*, The Atlantic, Aug 8, 2016.

[26] Jesse Hamilton and Michelle Jamrisko, Reaganomics Band Gets Back Together to Advise Trump on Plan, Bloomberg Politics (May 26, 2016).

cuts substantially outweighs the income effect, there seems to be no clear answer to the question.

On the other hand, for people who are not in the workforce, a reduction of taxes on labor can only have a substitution effect, which encourages a substitution of work for leisure. There is empirical support for the proposition that increases in after-tax wages, indeed, have the effect of causing people who are not working (for example, homemakers) to enter the labor market, thus validating the substitution effect in this situation.

On last point: for a person already in the labor market, both the income effect of a tax cut (more leisure, less work) and the substitution effect (more work, less leisure), the person is substituting either leisure for work (income effect) or work for leisure (substitution effect); thus both effects involve s*ubstitutions* of one for the other.

R. What is the justification for deregulation?

Policies supporting a reduction in regulation can promote economic efficiency. However, it would be a grave mistake to assume that deregulation is always desirable and beneficial. For example, as indicated in the analysis of externalities in Chapter 21, there is a sound economic justification for certain environmental regulation and other regulation designed to properly account for situations in which due to detrimental externalities, there are unaccounted for marginal societal costs of production.

S. What is the relationship between financial markets and economic growth?

The financial system consists of financial institutions, such as banks and insurance companies, and capital markets, which include the stock and bond markets. This system funnels funds from individuals and institutions that save, to firms that need funds for real investment. As indicated above, real investment includes investment in plant, equipment, R&D, and other business assets and is to be distinguished from investment in financial assets, which includes purchases of stocks and bonds. Thus, the financial system acts as an intermediary between those with funds to save and those with a need for funds for real investment.

The intermediary role performed by banks is direct to the extent that banks collect deposits and lend funds to firms. The intermediary role of capital markets is both direct and indirect. For example, the purchase by an individual investor of existing (that is, outstanding) stock of a company listed on the New York Stock Exchange does not result in the funneling of the funds directly to the company whose stock is traded. Rather the funds go to the seller of the stock. However, if there is enough interest in the stock of the company, this may make it possible for the company to raise additional capital from the sale of additional stock. Thus, the public trading may indirectly contribute to the ability of the firm to raise additional capital. On the other hand, if, for example, a closely-held company issues its stock in a private offering (that is, an offering to a small number of sophisticated investors) or in an initial public offering or IPO (that is, in an offering in which the shares are publicly traded after the offering), the funds go to the company for the purposes spelled out in the disclosure documents provided to the purchasers of the stock. The same is true when a publicly traded corporation issues new shares in a private or public offering. IPOs and public offerings by companies that are already public must be registered with the Securities and Exchange Commission (SEC).

The financial system helps to promote economic growth by channeling savings into real investment. Various empirical studies have found a strong correlation between sophisticated financial systems and economic growth. Countries with well-developed banking systems and capital markets tend to experience faster economic growth than those countries with less developed financial systems.

Chapter 12 addresses some of the issues involving the regulation of the financial markets, including the impact of the Dodd-Frank Act.

T. How does foreign direct investment (FDI) and foreign portfolio investment (FPI) affect economic growth?

1. What about FDI and FPI into the U.S.?

Foreign investment in the U.S. is divided into foreign direct investment (FDI) and foreign portfolio investment (FPI). FDI involves an acquisition of at least 10% of the stock of a U.S. business, and FPI includes all other acquisitions of stocks and bonds of U.S. companies and governments. A classic example of FDI occurs when a foreign corporation, such as BMW, a German auto company, sets up a wholly owned subsidiary in South Carolina (that is, a U.S subsidiary corporation, all the stock of which is owned by BMW) to manufacture BMW cars.

A classic example of FPI occurs when a German citizen purchases stock of IBM on the New York Stock Exchange. FDI and FPI into the U.S. increase our stock of capital, and thereby contribute positively to economic growth. This is so even though the income generated by the FDI and FPI may be distributed to the foreign owner and not reinvested in the U.S.

2. Does the U.S. have capital controls on FDI or FPI?

The U.S. does not control the outflow of capital (that is, does not have capital controls) with regard to U.S. investments made by foreign investors; therefore, there is no limit on the ability of the foreign investor to repatriate its earnings or its initial invested capital. This subject will be explored further in Chapter 11, which deals with international trade and investment.

CHAPTER 4, WHAT IS GROSS DOMESTIC PRODUCT (GDP) AND HOW IS IT A MEASURE OF ECONOMIC GROWTH?

A. What is in this Chapter?

This chapter proceeds as follows. First, the chapter elaborates on the concepts of gross domestic product (GDP) and gross national product (GNP) and discusses generally the components of GDP. The chapter then briefly addresses alternative ways of computing GDP and provides a circular diagram with an explanatory Table of the elements that go into GDP. Next, the chapter examines the behavior of each of the components of GDP for the past several years and reports on a forecast of future movements in GDP and its components. The chapter then explores various aspects of the concept of GDP per capita, which is probably the best macroeconomic measure of the standard of living.

B. What is GDP?

GDP, which is sometimes referred to as the economy's output, is the total amount spent, measured in dollars, on final goods and services produced in the U.S. economy by labor and assets located in the U.S. during a specified period, such as a month, a quarter, or a year. As an aggregate concept, GDP is an aggregation of all final sales in the economy. For example, the final sales price of a PC, the final product, is included in GDP and not the sales price of the components that make up the PC, the intermediate products. Also, as discussed more fully below, GDP does not include an amount spent on a used good, such as a used PC. On the other hand, GDP includes the amounts spent by businesses on capital goods, such as plant and equipment, even though these goods are intermediate. Thus, for example, GDP includes the cost of a new plant a computer company incurs for the manufacturer of PCs but not the cost the company incurs for the disk drives that are included in its PCs; the cost of the disk drives is accounted for as part of GDP on the sale of the computers.

GDP does not include sales of items produced in prior years, such as used cars or existing homes, but it does include the salary paid to the used car salesman and the fees paid to the seller's and buyer's broker for the existing home, because these salaries and fees are paid for currently rendered services. Also, GDP does not include purchases of financial assets, such as stocks or bonds, because the purchase of these assets does not involve production of goods or services. However, GDP does include the brokerage commission paid in making an acquisition or disposition of a financial asset. The funds received by firms from the direct sale of financial assets feeds into GDP because the funds are used to produce products and buy services that ultimately contribute to GDP.

Since corporate mergers and acquisitions involve either the acquisition of (1) a financial asset, that is, the stock of the target corporation, or (2) the existing assets of a target corporation, these transactions are not included in the computation of GDP. However, the fees paid to lawyers and investment bankers for the facilitation of the transactions are included in GDP.

GDP is a measure only of products and services transferred in legally organized markets. Thus, GDP does not include, for example, work performed by homemakers, or sales of illegal products, such as drugs, or sales or barters on a black market.

GDP is computed without any subtraction for consumption of fixed capital, that is, depreciation.

Finally, GDP may increase as a result of a tragic event. For example, as a result of damage caused by a hurricane, spending will increase, thereby increasing GDP.

GDP can be measured on either a nominal (*i.e*., current price) basis or a real, (*i.e*., inflation adjusted) basis. Real GDP uses constant base-year prices, thus measuring GDP between different time periods by valuing all goods and services produced in the two periods at the same prices or in constant dollars. Thus, for example, the *2016 Economic Report of the President* indicates that for 2015 nominal GDP was $18.1 trillion[27] on an annualized basis, and real GDP measured in 2009 dollars was $16.4 trillion.[28]

C. What is GNP?

Gross National Product (GNP) is a measure of final goods and services produced by labor and assets supplied by U.S. residents, wherever in the world the labor or assets are supplied. Thus, GNP does not include, for example, profits made by a German car manufacturer on cars produced and sold in the U.S. but does include the profits made by a U.S. car manufacturer on cars produced and sold in Germany. The *2012 Economic Report of the President* shows that GNP is computed by starting with GDP and adding *Income Receipts by U.S. Residents from the Rest of the World*, and subtracting *Income Payments by U.S. Residents to the Rest of the World*.[29] For the U.S., GDP and GNP are quite close in magnitude. For example, for 2010, nominal GDP was $14.52 trillion and nominal GNP was $14.71 trillion.[30] Because of the similarity in GDP and GNP and for other reasons, most macroeconomic analysis in the U.S. focuses on GDP.

D. What is the national income accounting system?

GDP, GNP, and GDO are part of the national income accounting system, which is the Federal system for collecting and presenting macroeconomic data. This system is based on the method of analysis set out by John Maynard Keynes in his 1936 groundbreaking macroeconomics book, *The General Theory of Employment, Interest, and Money*.

E. What are the components of GDP?

GDP consists of the following four components:

(1) Personal Consumption Expenditures (C), which includes consumer purchases of durable goods, non-durable goods, and services;

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[27] *2016 Economic Report of the President*, *infra* Bibliography, at Table B-2, Gross Domestic Product, 2000-2015.
[28] *Id*. .
[29] *2012 Economic Report of the President*, *infra* Bibliography, at Table B-26, Relations of Gross Domestic Product, Gross National Product, Net National Product, and National Income, 1959-2003.
[30] *Id*.

(2) Gross Private Domestic Investment (I), which includes business investment in structures, equipment, software, and changes in inventory, and investment by people in new residential housing;

(3) Government Purchases of Goods and Services (G), which include Federal spending on defense and non-defense goods and services and all state and local spending on goods and services; and

(4) Net Exports of Goods and Services (NX), which is the difference between exports and imports.

The focus in each of these components is on expenditures made for goods and services, and this is, therefore, the expenditure method of computing GDP. Other methods of computing GDP are set out in a later section.

Thus, in terms of a formula, GDP=C+I+G+NX represents the demands of all consumers, firms, government, and foreigners for final U.S. products and services.

F. What is GDO?

The *2016 Economic Report of the President* reports that a new concept, Gross Domestic Output (GDO), is "a better measure of output." The *Report* gives the following explanation of GDO:

> Measuring the strength of the economy can be difficult as it depends on surveys and administrative source data that are necessarily imperfect and incomplete in their ability to capture a complex, dynamic, and large economy. Official statistics measure the total output of the economy in two distinct ways: first, gross domestic product (GDP), which cumulates various measures of production by adding consumption, investment, government spending, and net exports; and second, gross domestic income (GDI), which cumulates incomes by adding labor compensation, business profits, and other sources of income. In theory, these two measures of output should be identical; however, they differ in practice because of measurement error. For example, the level of GDP was about 1-percent less than GDI during the first three quarters of 2015, though over longer time periods neither measure is typically stronger or weaker.
>
> In July 2015, the Bureau of Economic Analysis (BEA) began publishing the average of GDP and GDI—which CEA refers to as gross domestic output (GDO). Real GDO growth is often close to real GDP growth, but differences can be important. For example, GDO slowed more in 2007 than GDP and gave an earlier signal of the impending severe recession.[31]

The discussions in this book will focus on GDP.

G. What are some of the aspects of the components of GDP?

1. What are some of the other aspects of the Personal Consumption Expenditure component of GDP?

As discussed previously, the Personal Consumption Expenditures component of GDP includes individual purchases of newly manufactured goods and services, including durable goods such as refrigerators. For example, the purchase of personal property at a

[31] *2016 Economic Report of the President*, *infra* Bibliography at 76.

yard sale would not be included in this component because the property sold is not newly manufactured. This component does not include the cost of new residential housing because these purchases are included in Gross Private Domestic Investment.

2. What are some of the other aspects of the Gross Private Domestic Investment component of GDP?

Although GDP generally includes purchases of final goods and services, Gross Private Domestic Investment includes purchases of those intermediate goods that add to the capital stock of a business, such a plant and equipment. Since the focus is on "Gross" investment, no deduction is taken for depreciation, or other capital consumption allowances, on plant and equipment. GDP minus capital consumption allowances is referred to as Net Domestic Product (NDP), which is not examined here.

Changes in inventories are included in Gross Private Domestic Investment because (1) increases in inventory levels are additions to the stock of business capital, and (2) decreases in inventory levels operate to decrease the stock of business capital. Thus, inventories are treated as though the business that produced them also purchased them, even though the inventory is still on the shelf and has not been sold.

Firms will generally have a targeted ratio of inventories-to-sales, and new inventory management techniques, referred to as "just-in-time" systems, are designed to reduce the need for businesses to produce products until there is a purchaser for the product, thus reducing the need to carry large inventories. As an indication of the effect of this development, the *1999 Economic Report of the President* indicates that over the period from 1981 through 1997, the months' supply of inventories held by businesses dropped from 3.1 months to just 2.1 months.[32]

As previously indicated, Gross Private Domestic Investment includes expenditures of individuals on new housing, but not for existing housing. Thus, Gross Private Domestic Investment includes the purchase by businesses of plant, equipment, and software, and the purchases by individuals of new (not previously existing) houses. Individual purchases of other durable products are accounted for in Personal Consumption Expenditures.

3. What are some of the other aspects of the Government Purchases of Goods and Services component of GDP?

Government Purchases of Goods and Services do not include transfer payments, such as welfare and Social Security payments. These payments are accounted for as part of Personal Consumption Expenditures when spent. Transfer payments make up a larger portion of the Federal government's expenditures than purchases of goods and services. For example, for 2012, the Federal government spent $1.07 trillion on goods and services and $2.3 trillion on transfer payments.[33] Since most government services are not sold in markets, the contribution of government to GDP is measured by the amount the government pays for goods and services, such as the amount the Federal government

[32] *1999 Economic Report of the President*, *infra* Bibliography, at 96, Table 2-15, Inventory to Sales Ratio.
[33] *2012 Economic Report of the President*, *infra* Bibliography, at Table B-84, Federal Government Current Receipts and Expenditures, 1963-2011.

pays for national defense and the amount a state government pays for its state police and other systems.

4. What are some of the other aspects of the Net Exports of Goods and Services (X - IM) component of GDP?

In computing Net Exports of Goods and Services (X - IM), imports of goods and services are subtracted from exports. Although an expenditure on an import is included in other expenditure items such as, for example, Personal Consumption Expenditures when a consumer purchases a bottle of French wine, the import expenditure has no effect on GDP since the payment is going to a foreign firm. To account for this, exports are reduced by the amount of the imports. The same result on GDP could be reached by subtracting imports from the relevant expenditure category, such as Personal Consumption Expenditures in the case of the French wine, but this is not the convention.

Net Exports of Goods and Services is principally a function of the following factors: (1) the exchange rate between the dollar and the currencies of our trading partners such as the euro, which is the common currency used in many European countries, including Germany and France; (2) the level of foreign income (as foreign income grows the demand for U.S. products will likely grow); (3) the state of trade policies (reduced trade barriers promote exports and imports); and (4) the taste of U.S. residents for foreign products and of foreigners for U.S. products. It is important to understand the impact of exchange rates generally and on the determination of GDP.

Exchange rates, which are explored in greater detail in Chapter 11, which deals with international trade and investment, are important because in making cross border purchases of goods and services, the currency used in the purchasing country must be converted into the currency used in the selling country in order to pay for the product or service that is sold. Thus, every import or export from countries with different currencies has a foreign currency trade associated with it. A strong dollar (*i.e*. the dollar will buy a substantial amount of a foreign currency) has a tendency to (1) decrease exports because it makes U.S. goods more expensive to foreigners, and (2) increase imports because it makes U.S purchases of foreign products more affordable. On the other hand, a weak dollar has a tendency to (1) increase exports because it makes U.S. exports more affordable to foreigners, and (2) decrease imports because it makes imports more costly for Americans.

For example, first assume that in most of 2014 there was a one to one relationship between the dollar and the euro, meaning it took one dollar to buy a euro and one euro to buy a dollar. Then assume that in 2015 the dollar weakens relative to the euro to the point where it takes $1.10 to buy a euro, or approximately .9 euros to buy a dollar. In such case, it could be expected that in 2015, other things being equal, (1) exports to Europe would be higher than otherwise would be expected, because with the weakened dollar, citizens and businesses of Europe could buy more dollars for each euro, and (2) imports from Europe would be lower than otherwise expected, because U.S consumers and businesses would have to pay more dollars to buy euros.

On the other hand, assume that in 2015 the dollar strengthens relative to the euro to the point where it takes just $.90 to buy a euro or approximately 1.1 euros to buy a dollar. In such case, it could be expected that in 2015, other things being equal, (1) exports to Europe would be lower than otherwise would be expected, because with the

strengthened dollar European citizens and businesses would have to use more euros in buying dollars, and (2) imports from Europe would be higher than otherwise would be expected, because U.S consumers and businesses would have to pay fewer dollars to buy euros.

The exchange rate is affected by the interest rate as follows: If interest rates go up, there is a greater foreign demand for U.S. bonds. To purchase the bonds, foreigners will have to first convert their foreign currencies into dollars. This purchase of dollars increases demand for dollars, and thereby increases the exchange rate, making the dollar stronger. Thus, high interest rates tend to depress exports and increase imports because they tend to strengthen the dollar, and low interest rates tend to increase exports and decrease imports because they tend to weaken the dollar.

H. How is GDP related to Aggregate Demand?

Another way of thinking about GDP is that it represents aggregate demand (AD), which is the demand for domestically produced final goods and services. The demand for these goods and services can come from (1) consumption spending by households (C), (2) investment spending by businesses and households (I), (3) government (Federal, state and local) spending on goods and services (G), and (4) foreign spending on U.S. goods (exports, X) minus U.S. spending on foreign goods (imports, IM), that is net exports, (X - IM) or (NX). Thus, stated as a formula, Aggregate Demand=GDP=C+I+G+(X-IM). The concept of aggregate demand is explored further in Chapter 6.

I. What is the relationship between Gross Private Domestic Investment and Aggregate Supply?

Although Gross Private Domestic Investment is part of aggregate demand, it is important to recognize that since investment adds to the capital stock and, therefore, to the productive capacity of the nation, it also, especially in the long run, adds to aggregate supply. Thus, Gross Private Domestic Investment does "double duty," boosting both current aggregate demand and long-term aggregate supply. Other elements of GDP can have a similar effect, such as government spending on education. The aggregate supply and aggregate demand concepts are explored further in Chapter 6 and subsequent chapters.

J. What is the relationship between GDP, Disposable Personal Income, and Personal Consumption Expenditures?

As indicated, GDP is the total output of the economy. Disposable personal income is the portion of GDP that goes to individual consumers, and as will be seen below in the discussion of the circular diagram of GDP in Diagram 4-A, it is basically GDP less the following:

(1) taxes after deduction of transfer payments (that is, taxes paid minus transfer payments, such as Social Security, received by individuals); and

(2) retained earnings of businesses.

Also, as seen in the discussion of this circular diagram, personal consumption expenditure is the portion of disposable personal income that consumers spend on

consumption. The relationship of these items at the per capita level is also explored below.

K. What was the recent contribution to GDP of each of its components?

Table 4-A shows the magnitude of real GDP, measured in year 2009 dollars, and each of the components of GDP for 2015. This data is from the *2016 Economic Report of the President*.

Table 4-A
Real GDP and Its Components, for 2015

		$ Trillions	Percent
(1)	Personal Consumption Expenditures [C]	$11.3	68%
(2)	Gross Private Domestic Investment [I]	$2.8	16.9%
(3)	Government Purchases of Goods and Services [G]	$2.9	17.5%
(4)	Net Exports of Goods and Services [X - IM]	-$0.5	-3.0%
(5)	Real GDP	$16.5	100.00%

Source: *2016 Economic Report of the President, infra* Bibliography, at Table B2, Gross Domestic Product 2000-2015

Table 4-A, indicates that (1) Personal Consumption Expenditures is by far the largest component of GDP, (2) Gross Private Domestic Investment and Government Purchases of Goods and Services are relatively close in magnitude, and (3) Net Exports of Goods and Services has a negative effect on GDP because imports exceed exports.

L. Are there alternative ways of computing GDP?

As indicated, GDP computed previously focuses on expenditures made by the various components that make up GDP. Another way of computing GDP is to focus on the income received by the various factors of production, land, labor, and capital, in the form of rents, wages, interest, dividends, royalties, and proprietor profits. The equivalency between GDP and income, which economists refer to as Y, can be seen from Table B-26, *Relation of Gross Domestic Product, Gross National Product, Net National Product, and National Income, 1963-2011,* of the *2012 Economic Report of the President*. This Table shows that for 2010, GDP was $14.52 trillion, and that National Income was $12.84 trillion. Once the consumption of fixed capital (principally depreciation and amortization) of $1.87 trillion is added to this National Income of $12.84 trillion, the result is $14.71 trillion, approximately the same as GDP, which is computed without any subtraction for consumption of fixed capital, that is, depreciation.

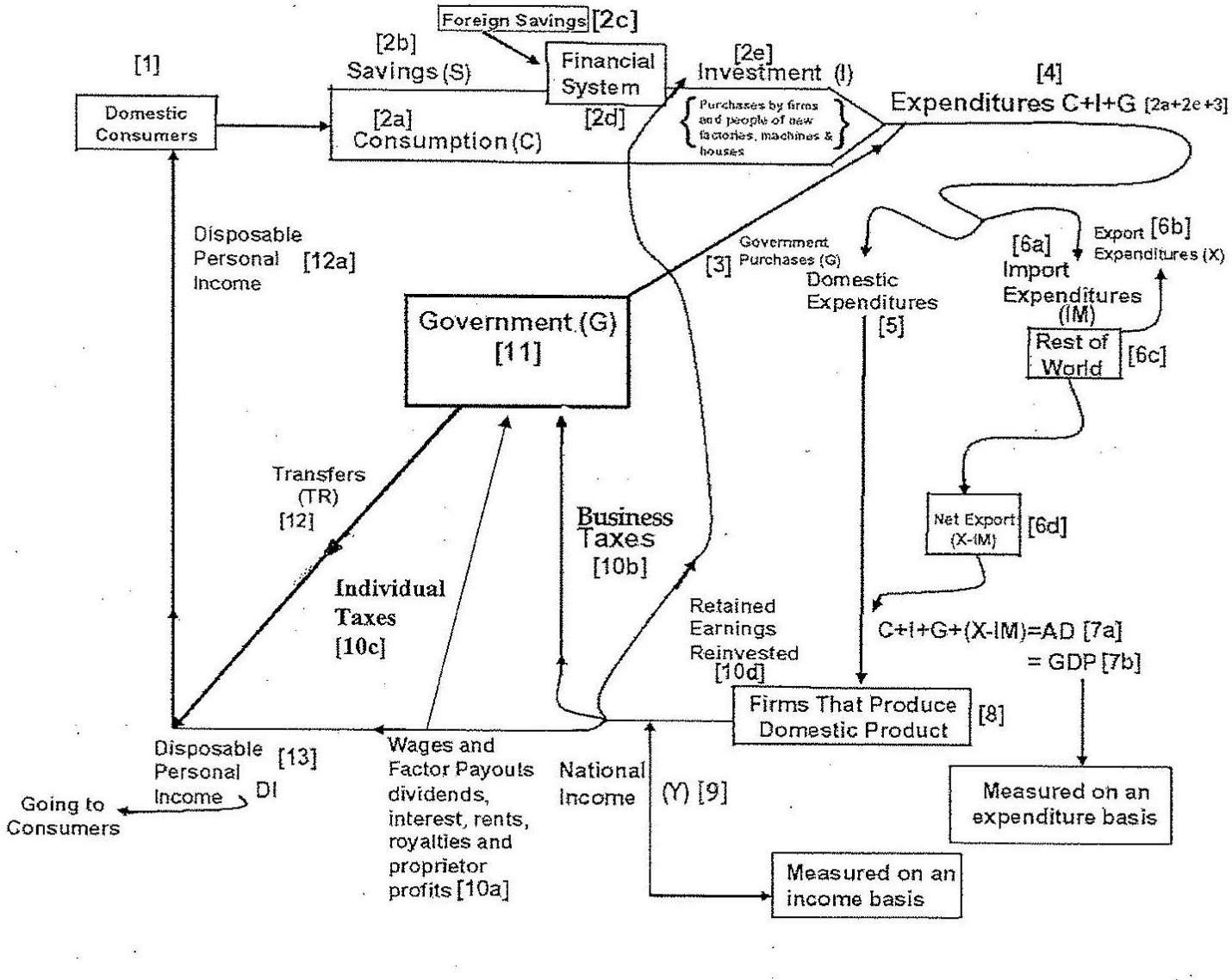
GDP can also be computed by summing all of the value added by all firms, which is in essence a firm's profit, that is, the revenue from the sale of the product minus the amount paid for the goods and services purchased from other firms in making the product.

The expenditure method of computing GDP is the most commonly used method, and, for that reason, these two alternative methods are not addressed further here.

M. What would a diagram of the GDP components look like?

Diagram 4-A, a GDP Circular Flow Diagram, sets out the relationships among the elements that go into the computation of GDP, and the discussion in the next section elaborates on the relationships.

Diagram 4-A
GDP Circular Diagram



N. What are the relationships among the items in the GDP Diagram?

First, start with Domestic Consumers [1] who receive Disposable Personal Income [13], which arises from (a) after-tax Wages and Factor Payments, that is, dividends, interest, rents, royalties and proprietor profits [10a], and (b) Transfer payments, such as welfare and Social Security (Tr) [12] from Government (G) [11].

Second, Domestic Consumers either spend their Disposable Personal Income on Consumption (C) [2a] or Save (S) [2b] their Disposable Personal Income with the

Financial System [2d]. Also, foreigners save through the financial system by, among other things, buying U.S. stocks and bonds and by making deposits in U.S. banks [2c]. Although some of consumption spending and investment spending is made on imports, this is accounted for as Import Expenditures [6a] in the computation of Net Exports [6d].

Third, the Financial System converts Savings into real Investments (I) [2e] by Firms in real assets, such as plant, equipment, and software. Also, the Retained Earnings (RE) [10d] of Firms [8] is converted by those Firms into real Investments (I) [2e]. This shows that except for RE, those who Save [2b and 2c] are not those who Invest [2e]. Real Investment at [2e] is different from "investment" individuals make when they use their savings [2b] to buy stocks and bonds through the financial system [2d].

Fourth, goods and services are purchased by

(a) Consumers in the form of Consumption (C) [2a],

(b) Firms in the form of Investment (I) [2e], which includes individuals purchasing newly constructed residences, and

(c) Government in the form of Government Purchases (G) [3].

These three give the amount of Expenditures (C+I+G) [4].

Fifth, Expenditures (C+I+G) [4] are divided between Domestic Expenditure (DE) [5] and Import Expenditures (IM) [6a]. Import Expenditures are offset by Export Expenditures (X) [6b] from the Rest of the World [6c] to arrive at Net Exports (X-IM) [6d].

Sixth, Aggregate Demand (AD) [7a] consists of the Expenditures represented by C+I+G+(X-IM) [7a], which goes to Firms that Produce Domestic Product [8]. This is GDP [7b] measured on an expenditure basis, that is, the total volume of goods and services purchased by consumers (C), businesses (I), governmental entities (G) and foreigners (X-IM). Equilibrium is reached when the AD at point [7a] equals production at point [8]; in the AD-AS model. As demonstrated in Chapter 6, this is the point at which AD=AS.

Seventh, the Firms that Produce Domestic Product [8] pay out National Income (Y) [9]. Note that National Income (Y) also equals C+I+G+(X-IM). This National Income is GDP measured on an income basis.

Eighth, the payout of National Income is divided between Wages and Factor Payments (that is, dividends, interest, rents, royalties, and proprietor profits) [10a], Business Taxes (T) [10b] and Individual Taxes [10c], and Retained Earnings (RE) [10d]. RE goes into Investments (I) [2e]. Thus, National Income (Y) represents the wages and other factor income and profits before taxes earned by all individuals in the economy.

Ninth, on the revenue side, the Government (G) [11] collects Business Taxes [10b] and Individual Taxes [10c]. On the expenditure side, the Government makes Purchases [3] and makes Transfer Payments [12] in the form of, for example, welfare and Social Security payments.

Tenth, Disposable Personal Income (DPI) [13] consists of (a) after-tax Wages and other Factor Payments (that is, dividends, interest, rents, royalties, and proprietor profits) [10a], and (b) Transfer payments (Tr) [12] from Government [11]. DPI is computed on an after-tax basis, because both Business Taxes [10b] and Individual Taxes [10c], including income taxes and payroll taxes, are diagramed as going from the Firms that Produce Domestic Product [8] and the Wages and Factor Payouts [10a] directly [10b and 10c] to the Government [11]. Note that withholding taxes on wages are paid by Firms [8]

as part of Business Taxes [10b]. Firms make withholding payments for the benefit of the recipient of the income. The Government [11] returns a portion of Taxes [10b] to consumers as Transfer [12] payments (*e.g.*, Social Security). These transfers increase DPI [13]. Therefore, DPI can be written as GDP minus the following two items: (a) Taxes after deduction of Transfers, and (b) RE (Retained Earnings), that is, DPI=GDP-(T-Tr)-RE. Also, DPI=Y (National Income)-(T-Tr)-RE. For example, assume that GDP is $100B, Taxes are $20B, Transfers are $5B, and Retained Earnings are $10B. In such case, DPI is $75B (that is, $100B-($20B-$5B)-$10B). Stated another way, DPI is GDP ($100B) minus RE ($10B) and minus the $15B of Taxes ($20B) that are not returned to consumers as Transfer payments ($5B), that is, DPI =$100B-$10B-$15B, or $75B.

Eleventh, DPI is what Consumers have to start the process over again by dividing their DPI between Consumption [2a] and Savings [2b].

O. What are some of the basic principles regarding the Investment component of GDP as shown on the GDP Circular Diagram?

1. First, what makes up the Investment component?

As indicated above, the investment component of GDP consists of (1) business investment in new nonresidential structures (that is, plant and office buildings), (2) business investment in equipment and software, (3) business investment in inventories, and (4) individual investment in new residential housing. This is shown at point [2e] on Diagram 4-A.

2. Second, why do businesses invest?

Businesses make real investments for a variety of reasons, including: the replacement of depreciated plant and equipment, the addition of new facilities to keep up with increasing demand, the lowering of operating costs through more efficient plant and equipment, and the development of new products. All of these reasons are expected to lead to an enhancement in free cash flow, which is discussed in the next section.

P. As of January 2016, what was the CBO's projected "Contributions [of the various GDP components] to the Growth of Real GDP?"

In its *2016 Budget and Economic Outlook*, the CBO had the following summary the projected "Contributions to the Growth of Real GDP:"

> CBO expects that consumer spending and both business and residential investment will drive growth of real GDP in coming years. Consumer spending is expected to provide the largest contribution to the growth of output over the next few years, as it has done on average in the past. However, the anticipated pickup in growth in 2016 and 2017 stems largely from faster growth in investment in business capital and in housing . On net, purchases by the federal government and by state and local governments are projected to have a small positive effect on the growth of GDP through 2020. In contrast, net exports will restrain growth in 2016 and 2017 but contribute slightly to growth thereafter, CBO projects.[34]

[34] *2016 Budget and Economic Outlook*, *infra* Bibliography, at 37

Q. As of January 2016, what was the projected rate of growth of Real GDP for the period 2015 to 2026 by the CBO, the Council of Economic Advisors, and the Federal Reserve Board?

In its *2016 Budget and Economic Outlook*, the CBO forecasts that over the period 2015 through 2025 the rates of growth of Real GDP are as set forth in Table 4-B:[35]

Table 4-B
CBO's Projected Growth Rates of GDP, 2015-2025

Year[s]	**Projected Growth Rates of GDP**
2015	2.0 Actual
2016	2.7
2017	2.5
2015-2020	2.2
2021-2025	2.0
2015-2025	2.1

These projections are similar to the projections in the *2016 Economic Report of the President*, at 108, and the *Fed 2016 Monetary Report*, at 36.

R. What is GDP Per Capita?

GDP per capita equals the level of GDP divided by the population, which in the U.S. was approximately 313 million as of the April 2012. GDP per capita is, therefore, a measure of the average citizen's standard of living. Real GDP per capita is probably the best macroeconomic indicator of how well an economy is performing. The *1999 Economic Report of the President* emphasizes the importance of per capita GDP: "If the objective of growth is the material welfare of the individuals who make up a country, then the proper measure of the success of a program of economic development is how much it adds to output per person—to total output divided by the population."[36]

It is possible for a country's nominal GDP to grow, while because of an increasing population, its real GDP per capita falls, which means that its citizens are on average becoming worse off. However, an improvement in real GDP generally means an improvement in other measures of the standard of living, such as life expectancy.

However, if there is a significant unequal distribution of resources within a country, even real GDP per capita will not be a good measure of how well citizens are doing. For example, even with a high growth rate of GDP per capita, wealthy residents may see their living standard soar while the poor see their living standard erode. This issue with inequality is addressed more fully in Chapter 20.

[35] Id. at Table 2-4, p. 57.
[36] *1999 Economic Report of the President*, *supra infra* Bibliography, at 317.

CHAPTER 5, HOW IS GDP TRACKED AND PROJECTED?

A. What is in this Chapter?

This chapter discusses how GDP is tracked and projected by various governmental and private firms.

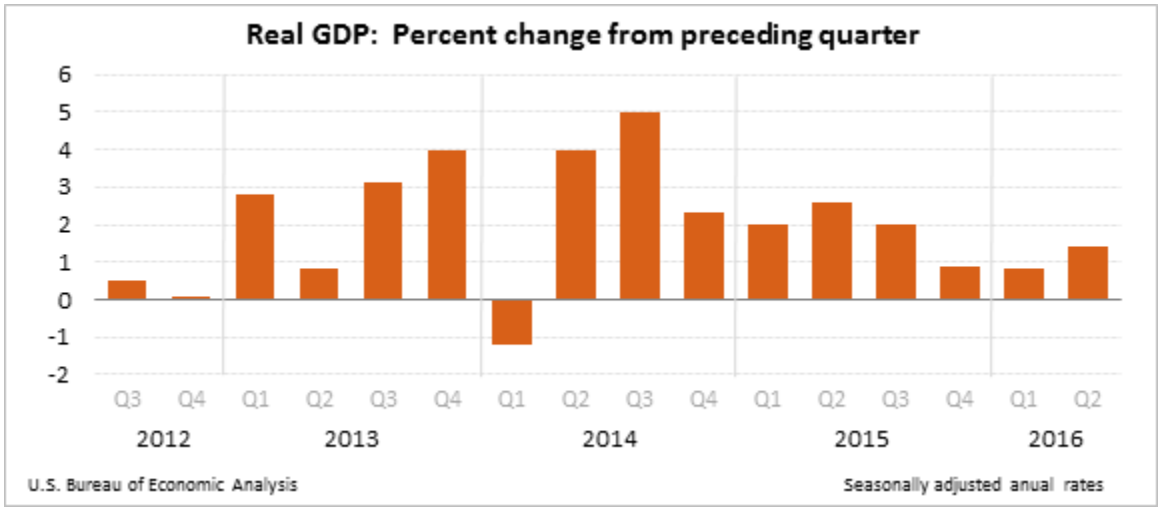
B. How does the Bureau of Economics track GDP?

The Department of Commerce's Bureau of Economic Analysis (BEA) issues a monthly report on various aspects of GDP. The reports, which are usually issued on the last Friday of the month, deal with such items as an estimate of the growth in GDP for the most recent quarter. The reports also give data on corporate profits. For example, the title of the report issued on September 29, 2016 was

National Income and Product Accounts
Gross Domestic Product: Second Quarter 2016 (Third Estimate)
Corporate Profits: Second Quarter 2016 (Revised Estimate)

As an illustration of the contents of these reports, the September 29, 2016 report gave the following summary of recent movements in GDP:

> Real gross domestic product increased at an annual rate of 1.4 percent in the second quarter of 2016, according to the "third" estimate released by the Bureau of Economic Analysis. In the first quarter, real GDP increased 0.8 percent. * * *
>
> With the third estimate for the second quarter, the general picture of economic growth remains the same. The most notable change from the second to third estimate is that nonresidential fixed investment increased in the second quarter; in the previous estimate, nonresidential fixed investment decreased. * * *



> Real gross domestic income (GDI) decreased 0.2 percent in the second quarter, in contrast to an increase of 0.8 percent in the first. The average of real GDP * * * increased 0.6 percent in the second quarter, compared with an increase of 0.8 percent in the first.

The increase in real GDP in the second quarter reflected positive contributions from personal consumption expenditures (PCE), exports, and nonresidential fixed investment. These were partly offset by negative contributions from private inventory investment, residential fixed investment, and state and local government spending. Imports, which are a subtraction in the calculation of GDP, increased.

The acceleration in real GDP in the second quarter primarily reflected an acceleration in PCE and upturns in nonresidential fixed investment and in exports. These were partly offset by a larger decrease in private inventory investment, downturns in state and local government spending and in residential fixed investment, and an upturn in imports.

Current-dollar GDP increased 3.7 percent, or $168.5 billion, in the second quarter to a level of $18,450.1 billion. In the first quarter, current dollar GDP increased 1.3 percent, or $58.8 billion.

The price index for gross domestic purchases increased 2.1 percent in the second quarter, compared with an increase of 0.2 percent in the first. The PCE price index increased 2.0 percent, compared with an increase of 0.3 percent. Excluding food and energy prices, the PCE price index increased 1.8 percent, compared with an increase of 2.1 percent.

C. How does the Council of Economic Advisers track GDP?

As indicated in Chapter 4, the *Economic Report of the President*, which is prepared by the Council of Economic Advisers and issued in February of each year, provides an analysis of the previous year's GDP and short and long-term projections of the growth rate of GDP. Also, detailed tables are presented with various analyses of past and current GDP and other macroeconomic factors.

D. How does the Federal Reserve Board track GDP?

In February and July of each year the Federal Reserve Board provides Congress with a Monetary Policy Report, and the Chairman of the Fed gives testimony on the report. Among other things, the reports and the testimony address recent developments in the growth of GDP. The reports also focus on the impact of the Fed's monetary policy. The current and past reports and testimony are available on the Fed's website at http://www.federalreserve.gov/.

E. How does the Congressional Budget Office track GDP?

The Congressional Budget Office's *Budget and Economic Outlook*, which is published in January of each year, and other analyses of the CBO are available at http://www.cbo.gov/. As indicated in Chapter 4, the *Budget and Economic Outlook* contains detailed analyses of the past performance of GDP and other macroeconomic variables and forecasts of such variables for many years into the future. All of these sources are discussed in the business press at the time of release.

F. What are some of the other indicators of GDP?

The online version of the Wall Street Journal, www.wsj.com, has an *Economic Calendar* that contains the most recent and past economic reports of various

governmental agencies and private business research organizations, such as the Conference Board's Index of Leading, Coincident and Lagging Indicators. There are around 100 reports on the U.S. economy.

The online version of the Wall Street Journal also contains an economic forecasting survey that contains forecasts from several private economists of GDP and other macroeconomic variables, such as inflation and unemployment.

G. What are the Conference Board's Leading, Coincident, and Lagging Indicators?

The Leading indicators tend to start expanding or contracting before GDP begins expanding or contracting. The Coincident indicators predict the current state of the economy. The Lagging indicators generally are the last to turn down in a recession or turn up in an expansion.

H. How does the Wall Street Journal's Economic Forecasting Survey forecast the growth rate of GDP?

The Wall Street Journal periodically collects the forecasts of numerous economists on various economic factors, such as the projected growth rate of GDP.[37] The surveys report the actual and forecasted performance of, *inter alia*: (1) the growth rates for GDP, (2) the unemployment rate, (3) the inflation rate, (4) the interest rate on both Fed Funds and ten-year government debt, and (5) the annual change in housing prices.

[37] Available http://projects.wsj.com/econforecast. .

CHAPTER 6, FROM THE DEMAND AND SUPPLY CURVES OF MICROECONOMICS TO THE AGGREGATE DEMAND (AD) AND AGGREGATE SUPPLY (AS) CURVES OF MACROECONOMICS: USING THE AD-AS MODEL IN ANALYZING ECONOMIC GROWTH?

A. What is in this Chapter?

This chapter employs (1) the supply curve and demand curve used in microeconomic analysis in Chapter 2, as an introduction to (2) the aggregate demand (AD) curve and aggregate supply (AS) curve employed in macroeconomic analysis. The chapter then elaborates on the AD-AS model. The chapter discusses basic principles underlying the model and explores how the potential GDP concept fits within the model. The chapter then examines the role of inventories in signaling whether the AD-AS model is in equilibrium and briefly considers the impact of monetary and fiscal policy on the AD curve, topics that are considered in greater detail in later chapters. Finally, the chapter examines the factors that can cause the aggregate supply curve to shift. The principles laid out in this chapter are utilized in subsequent chapters.

B. How does the microeconomic supply and demand model relate to the macroeconomic aggregate supply and aggregate demand model?

As discussed in Chapter 2, microeconomic analysis focuses on the behavior of individual markets, whereas macroeconomic analysis focuses on the behavior of the broad economy. The supply and demand analysis introduced in Chapter 2 is not generally used in macroeconomic analysis. However, macroeconomic analysis employs what is known as the aggregate supply curve and the aggregate demand curve. These curves are plotted on a graph that has GDP on the horizontal axis and the price level on the vertical axis. Whereas the supply and demand curves used in microeconomic analysis focus on one market, the aggregate supply curves and the aggregate demand curves used in macroeconomic analysis focus on the aggregation of all economic players in a market. Therefore, the aggregate supply and demand curves are more of an abstraction than the regular supply and demand curves.

In thinking about these two sets of supply and demand curves, it is important to note that as Professor Krugman points out: "[M]acroeconomic questions [cannot be] be answered simply by adding up microeconomic answers," such as by "adding supply and demand analysis to every good and service in the economy, [and] then summing the results[.]"[38] He goes on to say: "[A]nswering macroeconomic questions requires an additional set of tools and an expanded frame of reference."[39]

As discussed more fully in Chapter 4, GDP, which is set out on the horizontal axis in the aggregate demand-aggregate supply model, is the total amount spent, measured in dollars, on final goods and services produced in the U.S. economy by labor and assets located in the U.S. during a specified period, such as a month, a quarter of the year, or a year. GDP is sometimes referred to as output, that is, the economy's output of goods and services measured in dollar terms. Thus, GDP is an aggregate concept; it is an

[38] Krugman and Wells, *Macroeconomics Third*, *infra* Bibliography at 166.
[39] *Id.*

aggregation of all final sales in the economy. As discussed in Chapter 4, GDP does not include sales of items produced in prior years, and it does not include purchases of financial assets, such as stocks or bonds, because the purchase of these assets does not involve production of goods or services.

Since GDP is measured on the horizontal axis of the graph depicting the aggregate demand and aggregate supply curves, GDP increases with movements to the right along the axis. This can be illustrated by, for example, the following information from the *2012 Economic Report of the President*. The *Report* indicates that nominal GDP, that is, GDP that is not adjusted for inflation, for 2011 was approximately $15.1 trillion.[40] Therefore, in plotting nominal GDP for 2012, the horizontal axis will include a range of dollar amounts around the current nominal GDP level (that is, $15.1 trillion), which will be near the midpoint of the horizontal axis.

As discussed in Chapter 4, GDP that has been adjusted for inflation is referred to as real GDP. The price level, which is set out on the vertical axis, is a measure of the price charged for a market basket of goods relative to the price charged for the same market basket of goods for a base period. It is, therefore, a measure of inflation, which is addressed in greater detail in Chapter 8. A common measure of inflation is the consumer price index or CPI. Two other methods of measuring consumer inflation are the GDP deflator and the chained prices approach, both of which are discussed further in Chapter 8, which deals with inflation.

The *2012 Economic Report of the President* uses 1982-1984 as the base period for computing the consumer price index. Thus, the average of the prices charged for the period 1982-1984 is assigned an index of 100.[41] The index for all items consumed by urban consumers, which is referred to as CPI-U, for 1983 was 99.6. The CPI-U index for 1968 was just 34.9, and the CPI-U index for 2011 was 224.9. The price level on the vertical axis will include a range of prices around the 2012 price level (that is, 224.9), which will be near the midpoint of the vertical axis.

As discussed in Chapter 4, the aggregate demand curve shows the expenditures on domestic products and services that would be made by consumers, businesses, governments, and foreigners at each possible value of the price level. Like the regular demand curve, the aggregate demand curve is downward sloping to the right, indicating that more expenditures will be made as the price level falls. The aggregate supply curve shows the quantity of GDP that firms will want to supply at each possible value of the price level. Since firms will want to supply more as the price level rises, the aggregate supply curve, like the regular supply curve, is upward sloping to the right. The intersection of the aggregate demand and supply curves gives the equilibrium point that shows on the horizontal axis the equilibrium level of GDP and on the vertical axis the equilibrium price level.

Graph 6-A presents a side-by-side picture of the microeconomic model of supply and demand and the macroeconomic model of aggregate supply and aggregate demand.

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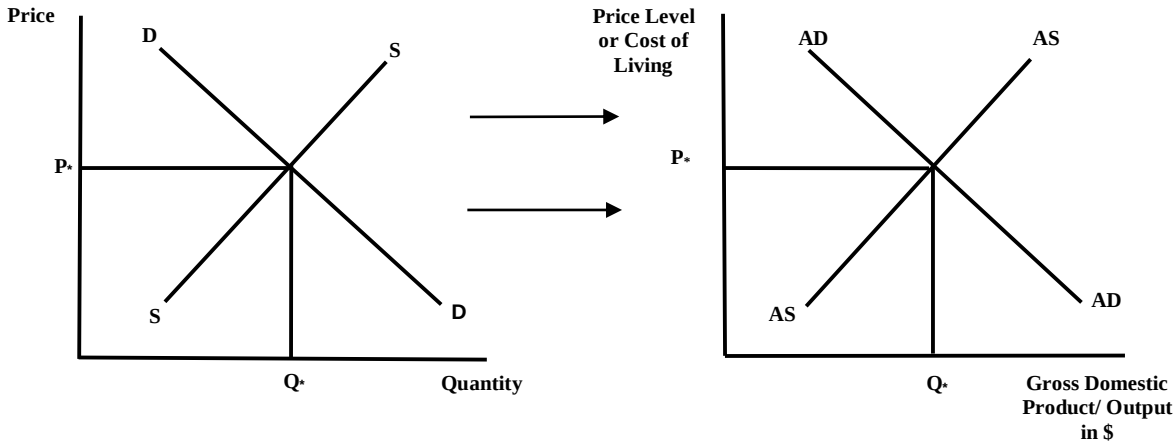
[40] *2012 Economic Report of the President*, *infra* Bibliography, at Table B-1, Gross Domestic Product, 1963-2011.

[41] *Id*. at Table B-60, Prices.

Graph 6-A
Illustration of Basic Microeconomic and Macroeconomic Models

Microeconomic Model of Competitive Market for Various Products

Aggregation of Microeconomic Models Results in Macroeconomic Model of Aggregate Demand (AD) and Aggregate Supply (AS)



It is important to grasp an intuitive understanding of a key difference between these two models. As indicated in Chapter 2, in the microeconomic model, the focus is on a particular market, such as the market for PCs, and the point on the horizontal axis below the intersection of the supply and demand curves gives the actual quantity of the particular product that will be produced in a competitive market. On the other hand, in the macroeconomic model, because the horizontal axis is measuring all products and services produced in the domestic market, it is not possible to specify an actual quantity of GDP or output; therefore, GDP is expressed in money values of all the goods and services produced. In summary, the horizontal axis in the microeconomic model is in quantity terms, but the horizontal axis in the macroeconomic model measures GDP in dollar terms.

The aggregation principles used in the AD-AS model in Graph 6-A and in macroeconomics generally are important because, in confronting broad economic issues such as unemployment, inflation, and economic growth, it is necessary to focus on the economy as a whole. Also, aggregation can be partially explained because markets tend to move in the same direction. However, aggregation can mislead; for example, the national unemployment rate may be falling while the unemployment rate in a particular region of the country is rising.

The AD-AS model is utilized in several subsequent chapters to illustrate the impact of various monetary and fiscal policies on economic growth.

C. What is the aggregate demand (AD) and aggregate supply (AS) model?

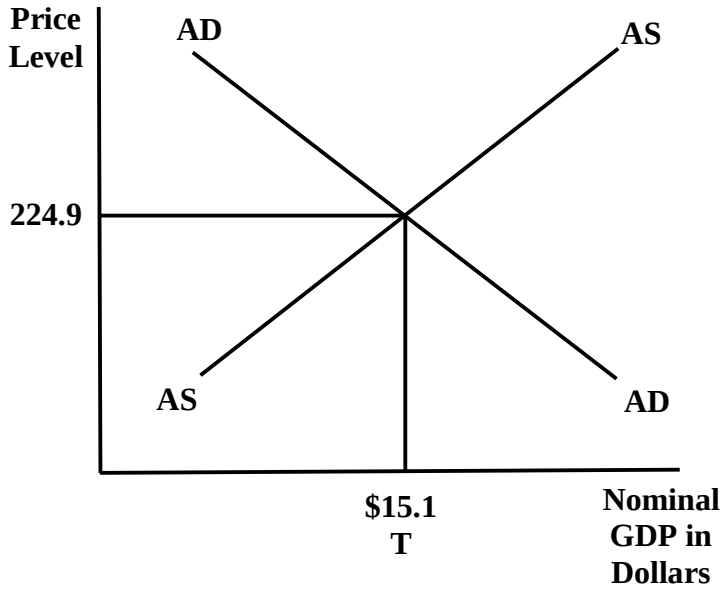
The aggregate demand (AD)-aggregate supply (AS) model is one of the principal tools of macroeconomic analysis. This book does not address more advanced macroeconomic models, such as the IS-LM model, which deals with the equilibrium position in the goods market as represented by the IS curve and the money market as represented by the LM curve. The AD-AS model is more than sufficient to illustrate how the level of GDP or output is determined and how monetary and fiscal policy can be used to impact the level of GDP, that is, can affect the rate of economic growth. The principles developed in this chapter are utilized in subsequent chapters, particularly the chapters focusing on monetary and fiscal policy.

As indicated, the AD curve, which is downward sloping, shows the level of aggregate spending that will occur given a particular price level. Thus, the AD curve, which is dependent on the price level, is a representation of the spending on domestic goods and services (GDP) that consumers (C), businesses (I), governments (G), and foreigners (X-IM) would make at each price level. (*See* Chapter 4 for an elaboration on the C, I, G, and (X-IM) components of GDP.) In equation form, AD=C+I+G+(X-IM), gives a particular price level. Thus, the higher the price level, the higher the associated point on the AD curve indicating that aggregate spending would be low. On the other hand, the lower the price level, the lower the associated point on the AD curve, indicating that aggregate spending would be high.

While the AD curve slopes downward to the right, the AS curve slopes upward to the right, indicating that the higher the price level, the more goods and services businesses will be willing to supply. Businesses will only sell if they can cover their costs, and as demonstrated in detail in 22, which examines the competitive and monopoly models of microeconomics, after a certain point in production, costs generally rise with increased production. Therefore, in order to sell the increased production at a profit, businesses will have to charge higher prices as production increases. For this reason, the AS curve slopes upward to the right.

The intersection of the AD and the AS curves determines the current level of GDP or output. The equilibrium level of GDP is equal to the spending that occurs on the AD curve at its point of intersection with the AS curve. This is all demonstrated in Graph 6-B.

Graph 6-B
Illustration of the Aggregate Demand-Aggregate Supply (AD-AS) Model



By definition, there is an equivalency between the equilibrium level of GDP and the level of spending (C+I+G+(X-IM)) associated with the equilibrium point on the AD curve. In equation form, GDP= C+I+G+(X-IM). The equivalency between GDP and the aggregate spending represented by C+I+G+(X-IM) is obvious from Table B-1, which is entitled *Gross Domestic Product, 1963-2011* and is in the *2012 Economic Report of the President*. This table shows that GDP is made up of the expenditures made by these components of GDP.

D. How does the concept of potential GDP fit into the AD-AS model?

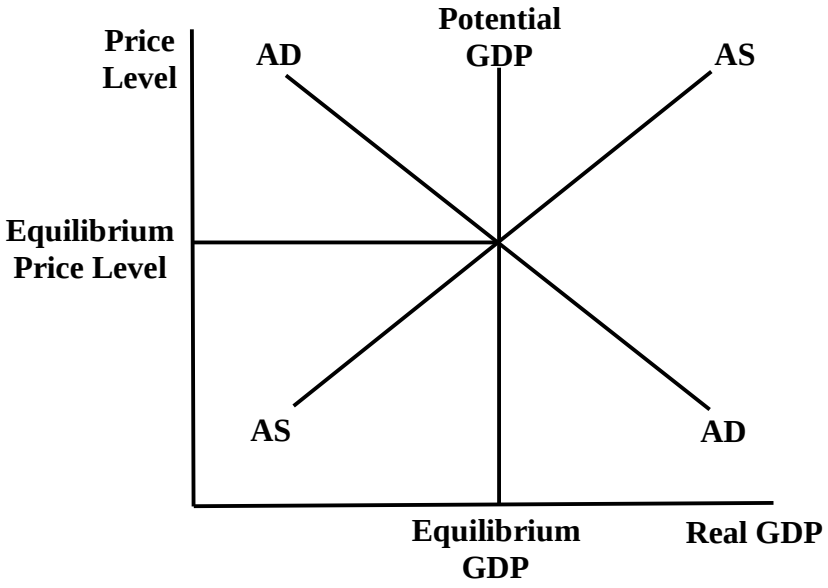
The equilibrium position in the AD-AS model, that is, the intersection of the AD and AS curves, will give the level of nominal or real GDP (depending on which is being measured) and the price level. Thus, this equilibrium position will indicate the actual amount of real or nominal GDP. On the other hand, potential GDP, which is introduced in Chapter 4, is an "estimate of the output the economy would produce with a high rate of use of its capital and labor resources."[42] Thus, potential GDP is an estimate of the output capacity of the economy, that is, it is an estimate of the amount of output the economy could produce assuming full utilization of all inputs.

It is important to compare the level of real GDP with the level of potential GDP. If the level of real GDP is also at the economy's potential GDP, as a general matter, the economy will be at the full employment level and there will not be either a tendency towards high inflation or a recession.

[42] *2012 Budget and Economic Outlook*, *infra* Bibliography, note 1 at 28.

Various agencies, including the CBO, make projections of the level of potential GDP. Graph 6-C shows the position in the AD-AS model when potential GDP is at the equilibrium position of real GDP.

Graph 6-C
Illustration of Position Where Potential GDP Equals Equilibrium GDP

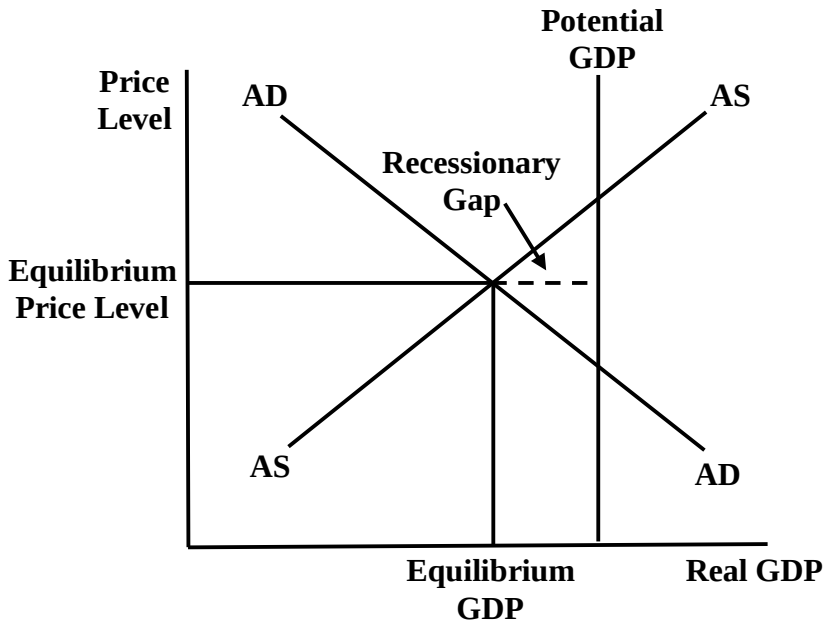


Since potential GDP is at the equilibrium point of the AD and AS curves, the economy is at the full employment level and all other resources are fully employed. At this point, the economy is not tending towards either inflation or recession.

E. What is a recessionary gap between Potential GDP and Real GDP?

If potential GDP exceeds the equilibrium level of real GDP, there will be a recessionary gap, indicating that the economy is underperforming. Graph 6-D illustrates this situation.

Graph 6-D
Illustration of Potential GDP Exceeding Equilibrium GDP—A Recessionary Gap



Since potential GDP exceeds the equilibrium position indicated by the intersection of the AD and AS curves, the economy is underperforming and generally there will be high unemployment with low inflation.

F. Has there been a recessionary gap as a result of the Great Recession and the weak recovery and where does the gap, if any, stand in 2016?

A recessionary gap between potential GDP and real GDP occurred as a result of (1) the Great Recession, which occurred between 2008 and June 2009, and (2) the slow recovery after the Great Recession. In its January 2012 assessment of the gap between actual GDP and potential GDP, the CBO explained:

> A large portion of the economic and human costs of the [Great Recession] and slow recovery remains ahead. In late 2011, according to CBO's estimates, the economy was about halfway through the cumulative shortfall in output [between potential GDP and actual GDP] that will result from the recession and its aftermath. From the first quarter of the recession through the third quarter of 2011, the cumulative difference between GDP and estimated potential GDP amounted to $2.6 trillion; by the time the nation's output rises back to its potential level, the cumulative shortfall is expected to equal $5.7 trillion. Not only are the costs associated with the output gap immense, but they are also borne unevenly. Those costs fall disproportionately on people who lose their jobs, who are displaced from their homes, or who own businesses that fail.[43]

[43] *Id.*

The CBO's *2016 Budget and Economic Outlook* indicates that much of the negative gap between real and potential GDP in 2012 had largely disappeared by 2016:

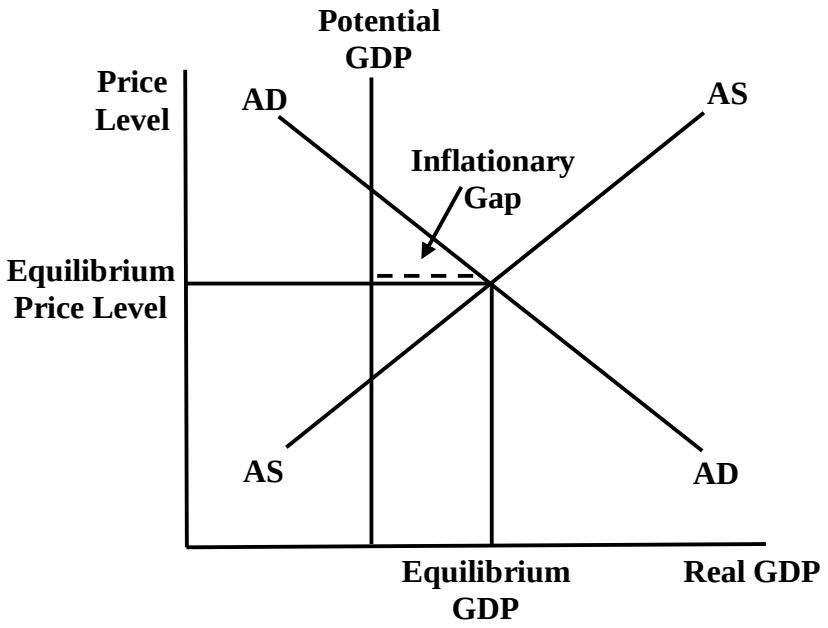
> CBO expects the slack in the economy to diminish to a negligible amount over the next few years. Since the end of the last recession, GDP has grown faster than potential GDP, on average, reducing the gap between the two and hence the amount of slack in the economy. CBO expects that gap to continue narrowing through the middle of 2018.[44]

G. What is an inflationary gap?

On the other hand, if potential GDP is less than the equilibrium level of real GDP, there will be an inflationary gap, indicating that the economy is overheating. This situation is illustrated in Graph 6-E.

[44] *2016 Budget and Economic Outlook*, infra Bibliography, at 32.

Graph 6-E
Illustration of Equilibrium GDP Exceeding Potential GDP—An Inflationary Gap



Since potential GDP is below the equilibrium position indicated by the intersection of the AD and AS curves, the economy is over-performing and generally there will be low unemployment with high inflation.

H. Can inventory levels indicate whether GDP is at an equilibrium level?

As illustrated in Graph 6-B, the equilibrium level of GDP is reached when the spending as represented by the AD curve equals the output supplied by businesses as represented on the AS curve. The level of business inventories can aide in determining if the economy is at this equilibrium position. If spending by consumers, businesses, governments and net exports exceeds output, firms will notice their inventories going down and, therefore, will increase production. On the other hand, if output exceeds spending, inventories will rise, and therefore, firms will cut back on production that would add to inventory levels. At the equilibrium point of the AD and AS curves, inventories will be at desired levels and firms will not change the level of output. Thus, inventory building by businesses is an indication that AD is shifting outward, and inventory depletion by businesses is an indication that AD is either shifting inward or is not shifting outward significantly. These principles are summarized in Table 6-A.

Table 6-A
Illustration of the Relationship between Inventories, Spending and Output

Condition	[1] Output	[2] Output is the Same, More, or Less Than Total Spending	[3] Total Spending (AD) C+I+G+NX	[4] Balance Between Spending and Output	[5] Inventories Are:	[6] Businesses Respond BY:
IF:	$15T	=	$15T	Spending = Output	Constant	Not changing production
IF:	$15T	<	$17T	Spending > Output	Falling	Producing more
IF:	$17T	>	$15T	Spending < Output	Rising	Producing Less

As Table 6-A demonstrates, movements in the level of inventories can lead to an increase in industrial production when the economy is expanding and a contraction in industrial production when the economy is in a slump. A decline in inventory investment could signal that the economy is moving into a recession. Indeed, a substantial part of the decline in investment that generally accompanies a recession is attributable to a lack of inventory investment.

I. How are inventories measured?

The U.S. Census Bureau of the Department of Commerce issues a monthly report on sales and inventories. The report is titled: *Manufacturing and Trade Inventories and Sales*. The Report for July, which was issued in July 2016, summarized its contents as follows:

> **Sales**. The U.S. Census Bureau announced today that the combined value of distributive trade sales and manufacturers' shipments for July, adjusted for seasonal and trading-day differences but not for price changes, was estimated at $1,303.6 billion, down 0.2 percent (±0.1%) from June 2016 and was down 0.8 percent (±0.4%) from July 2015.
>
> **Inventories**. Manufacturers' and trade inventories, adjusted for seasonal variations but not for price changes, were estimated at an end-of-month level of

$1,813.2 billion, virtually unchanged (±0.1%)* from June 2016, but were up 0.5 percent (±0.6%)* from July 2015.

Inventories/Sales Ratio. The total business inventories/sales ratio based on seasonally adjusted data at the end of July was 1.39. The July 2015 ratio was 1.37. [45]

J. How does the AD curve react to monetary and fiscal policy?

It is important to understand that the AD curve is constructed under the monetary and fiscal policies that are in effect. If, however, monetary or fiscal policy changes, the AD curve will shift either outward or inward. Thus, the AD curve shows the equilibrium level of spending at each level of prices, given the current state of monetary and fiscal policy. Thus, just as the microeconomic demand curve is drawn on the assumption that other things are equal (that is, there are no changes in income, taste, or other prices), the AD curve is drawn on the assumption that other things are equal (that is, there are no changes in monetary policy or fiscal policy).

The shifts in the AD curve from a change in fiscal policy can be illustrated as follows. If the government increases spending, the AD curve would have a tendency to shift to the right as long as the spending did not drive up interest rates because of a resulting deficit. On the other hand, if the government increases individual taxes, the AD curve would have a tendency to shift to the left because consumers would have less to spend.

Turning to monetary policy, there would be a rightward shift in the AD curve if the Fed lowered the interest rate by increasing the money supply, and a leftward shift if the Fed increased interest rates. This is because firms will invest more with lower interest rates and invest less with higher interest rates.

The shifts in the AD curve as a result of changes in monetary and fiscal policy are discussed in greater detail in subsequent chapters. Also, the AD curve can shift as a result of changes in private behavior, such as an increase in spending by consumers that is attributable to, for example, an increase in the stock market, which increases wealth. This is referred to as the wealth effect on consumption. The wealth effect may cause what is referred to as an autonomous shift in the consumption function, which is discussed later.

K. What causes the AS curve to shift?

As indicated, the AS curve describes for each given price level the quantity of output firms are willing to supply. It reflects conditions in the market for factors of production, that is, capital, labor, and technology. Although it is thought that in the long run the AS curve may be vertical because in the long run the amount of output supplied depends on the available factors of production, in the short run (for example, over a period of a year of two) the AS curve is upward sloping because an increase in the price level tends to raise output, and a decrease in price level tends to reduce output.

Factors that can shift the AS curve in the long run include incentives to promote such items as saving, education, and know how. In the short-term, supply shocks can

[45] U.S. Census Bureau, Department of Commerce, Manufacturing and Trade Inventories and Sales, July 2016 (issued Sept. 15, 2016).

shift the AS curve. For example, a sudden increase in oil prices as a result of changes in the geopolitical situation would shift the AS curve upward to the left, and a sudden decrease in oil prices as a result of a new oil discovery would shift the AS curve outward to the right. The results of the negative supply shock are examined further in Chapter 8, which deals with inflation.

L. What is the relationship between supply side economics and the AS curve?

As indicated in Chapter 3, those who subscribe to supply side economics, think that cutting marginal tax rates will shift the AS curve outward to the right because the tax reductions will encourage work. Thus, supply siders believe that for those in the working population, the substitution effect of tax cuts (that is, the tendency of more after-tax income to encourage more work and less leisure) overpowers the income effect of tax cuts (that is the tendency of more after-tax income to encourage leisure). To summarize: with respect to a tax cut,

(1) the substitution effect predicts that individuals will work harder because they will have higher after-tax incomes, and

(2) the income effect predicts that individuals will work less and take more leisure time because they will have higher after-tax incomes.

For those not in the working population, supply siders and others believe that only the substitution effect is applicable, which means that more after-tax income encourages those out of the work force to substitute work for leisure or homemaking. As indicated in Chapter 3, empirical evidence supports this latter proposition.

CHAPTER 7, WHAT IS THE RELATIONSHIP BETWEEN ECONOMIC GROWTH AND EMPLOYMENT, AND WHAT ARE THE MIMIMUM WAGE AND OTHER EMPLOYMENT POLICIES OF SECRETARY CLINTON AND MR. TRUMP?

A. What is in this Chapter?

This chapter starts with a look at various aspects of the labor market, such as the unemployment rate, the number of jobs created or lost in the economy, and the relationship between the unemployment rate and growth of the labor market. The chapter then considers (1) the behavior of the unemployment rate when actual GDP is both above and below potential GDP, and (2) the relationship between the rate of growth of GDP and the level of employment, which is set out in Okun's law. The chapter then turns to several important policy issues: unemployment insurance, minimum wage law, the relationship between unemployment and the crime rate, and outsourcing. The chapter then examines the positions of Secretary Clinton and Mr. Trump on these issues and my take on their proposals. Finally, the chapter discusses some of the principal ways of tracking developments in the labor market.

B. What is the "unemployment rate"?

The unemployment rate is the number of unemployed people expressed as a percentage of the number of people in the workforce. The workforce is the number of people holding or seeking jobs. Thus, for example, if 100 million people are in the workforce and 5 million are unemployed, then the unemployment rate is 5%. This means that in terms of supply and demand, the supply of labor exceeds the demand for labor. The greater the excess of the supply of labor over the demand for labor, the greater the unemployment rate.

C. What is "slack in the labor market," the "employment shortfall," "potential employment," "labor force participation," and the "natural rate of unemployment?"

The CBO's *2016 Budget and Economic Outlook* provides the following introduction to these terms:

> The employment shortfall, CBO's primary measure of slack in the labor market, is the difference between actual employment and the agency's estimate of potential (maximum sustainable) employment. Potential employment is the employment that would exist if the unemployment rate was at the natural rate of unemployment (the rate that arises from all sources except fluctuations in the overall demand for goods and services) and the rate of labor force participation was at its potential rate. The contribution to the shortfall from the difference in unemployment rates is the difference between the number of jobless people searching for work at the current rate of unemployment and the number who would be jobless at the natural rate of unemployment. The contribution to the shortfall from the difference in participation rates is the difference between the number of people who are employed at the current labor force participation rate

and the number who would potentially be employed if the participation rate reflected a labor market with healthy job prospects. CBO estimates that the employment shortfall was about 2½ million people at the end of last year [2015]. That shortfall was almost entirely accounted for by the depressed rate of labor force participation; CBO estimates that the unemployment rate was only slightly above its natural rate.[46]

D. What is the contribution to slack in the labor market of (1) part-time employment, (2) marginally attached workers, and (3) a low number of hours worked?

The CBO's *2016 Budget and Economic Outlook* provides the following discussion of the contribution to slack in the labor market of (1) part-time work, (2) marginally attached workers, and (3) a low number of hours worked:

> CBO's primary measure of labor market slack incorporates the most important sources of slack during the current recovery but does not include all possible sources. For example, another source of slack in the labor market [other than the employment shortfall] is the continued unusually large percentage of part-time workers who would prefer to work full time. About 4 percent of all workers were employed part time for economic reasons (that is, because of weakness in the overall demand for goods and services) at the end of 2015, down from 4¾ percent at the end of 2014. Yet that rate is still about 1 percentage point above the rate in the fourth quarter of 2007. But how much of that difference is a measure of slack is hard to determine because part of the increase since 2007 may also be related to structural factors such as a changing composition of employment by industry. One such factor is a shift of employment to industries that employ a larger fraction of part-time workers, suchas service industries. That development suggests that the share of workers working fewer hours than they prefer may be elevated as workers and firms adjust to those structural changes.
>
> Another source of slack is the number of people said to be marginally attached to the labor force (that is, who are not looking for work now but have looked for work in the past 12 months). That number is larger than before the recession, for example—about 1.8 million people at the end of last year, up from about 1.4 million in the fourth quarter of 2007. Since the elevated level of the number of people whoare marginally attached to the labor force is closely related to the depressed rate of labor force participation, CBO's measure of the employment shortfall largely reflects that factor. . . .
>
> Another measure of slack could focus on the number of hours worked, such as the average number of hours worked per week. CBO does not use hours tomeasure slack because the agency forecasts average hours worked per week for only a portion of the economy (the nonfarm business sector). Nonetheless, in 2015 the average number of hours worked per week had returned to its prerecession value, and average hours worked per week in the nonfarm business sector had returned to its historic relationship with potential average hours worked per week. That outcome suggests that any cyclical influence on average hours

[46] *2016 Budget and Economic Outlook*, infra Bibliography, at 44, Box 2-1.Table 2.7.

worked per week was not a significant source of slack in the labor market last year.

Other economic indicators offered mixed signals about the amount of slack remaining in the labor market. The continued slow growth in hourly labor compensation compared with the growth in labor productivity and inflation indicated slack at the end of 2015. But two other indicators—the rate at which job seekers are hired and the rate at which workers are quitting their jobs (as a fraction of total employment)—suggested that slack had diminished considerably.[47]

E. What is the unemployment picture in 2016?

The CBO's *2016 Budget and Economic Outlook* contains the following analysis of the unemployment situation as of early 2016, which is similar to the situation in late 2016:

Unemployment. The unemployment rate fell from 5.7 percent in the fourth quarter of 2014 to 5.0 percent in the fourth quarter of 2015. Most of that decline stemmed from a decline in long-term unemployment (that is, unemployment lasting at least 27 consecutive weeks) as those who had been unemployed long-term appeared to move into employment (see Figure 2-8 on page 48). That outcome indicates possibly diminishing effects of the stigma and erosion of skills that can result from long-term unemployment.

CBO projects the unemployment rate to fall to 4.5 percent by the end of this year and reach 4.4 percent in 2017, leaving the rate roughly 0.4 percentage points below CBO's estimate of the natural rate of unemployment. That difference reflects a projected increase in the demand for labor that temporarily outstrips the boost to the labor force resulting from an improving labor market. However, the relatively low unemployment rate does not imply that slack is no longer present in the labor market beginning this year. Some slack is expected to persist through 2020 because fewer people will be participating in the labor market than would do so if the economy was operating at its potential.

CBO expects the natural rate of unemployment to fall by about 0.1 percentage point through 2020—from 4.9 percent last year—largely because of the demographic shift in composition of the workforce to older workers, who tend to have lower rates of unemployment.[48]

F. How does the labor force participation rate help in analyzing the unemployment rate?

Because the workforce includes only people who have a job or are looking for one, if a person seeking work has been unable to find work and, therefore, decides to quit seeking work, such person is no longer included in the workforce. Thus, the unemployment rate understates the actual number of unemployed who would want to work if they thought it were possible. As a consequence, at the tail end of a recession the unemployment rate may fall because people become frustrated and cease looking for

[47] *Id*. at 44-45, Box 2-1.Table 2.7.
[48] *Id*. at 46.

work. For example, in 2011 and 2012 (several years after the Great Recession), the unemployment rate dropped, in part, for the following two reasons: (1) people dropping out of the labor market because they could not find jobs, and (2) Baby boomers (those born between 1946, after World War II, and 1964) retiring. This also happened in the recessions that occurred in 1973-75 and 1990-91. On the other hand, as the economy begins to improve after a recession, more people may begin looking for work and this may cause the unemployment rate to increase or not fall as quickly.

The civilian labor force participation rate is a helpful tool in dissecting the unemployment rate. The civilian labor force participation rate is the percentage of civilian population over 16 and in the workforce.

G. What were the "labor force participation rates" and the unemployment rates for each of the calendar years 1995 through 2015?

Table 7-A sets out the annual civilian labor force participation rates and the unemployment rates for calendar years 1995 through 2015.

Table 7-A
Civilian Labor Force Participation Rates and Unemployment Rates, 1995-2015

Calendar Year	Annual Civilian Labor Force Participation Rate in Percentages	Annual Unemployment Rate in Percentages
1995	66.6	5.6
1996	66.8	5.4
1997	67.1	4.9
1998	67.1	4.5
1999	67.1	4.2
2000	67.1	4.0
2001	66.8	4.7
2002	66.6	5.8
2003	66.2	6.0
2004	66.0	5.5
2005	66.0	5.1
2006	66.2	4.6
2007	66.0	4.6
2008	66.0	5.8
2009	65.4	9.3
2010	64.7	9.6
2011	64.1	8.9
2012	63.7	8.1
2013	63.2	7.4
2014	62.9	6.2
2015	62.7	5.3
Average	65.6	5.9

Source: U.S. Department of Labor, Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey, Historical Data from Table A-1. Employment status of the civilian population by sex and age, at www.bls.gov

Table 7-A shows that from calendar year 1995 through calendar year 2000, the unemployment rate fell from 5.6% to 4.0%, the lowest rate since the 1960s. At the same time, the civilian labor force participation rate increased from 66.6% to 71.1%. Thus, even as more people began looking for jobs (that is, the supply of labor was increasing) the unemployment rate continued to fall, indicating that the increasing demand for workers was outstripping the increasing supply. By any measure these last years of the Clinton Administration were very good for the labor market.

Table 7-A also shows that in 2003 the labor participation rate fell to 66.2% and the unemployment rate increased to 6.0%. Thus, if the participation rate in 2003 had been the same as the participation rate in 2000, the unemployment rate in 2003 would

have even been higher. Along the same line of analysis, in 2004 the labor participation rate dropped to 66.0%, indicating that many potential workers were dropping out of the market, thereby decreasing the supply of labor. At the same time, the unemployment rate decreased to 5.5%. At least some of the reduction in the unemployment rate was attributable to the decline in the participation rate.

For the aftermath of the Great Recession, Table 7-A shows that for both 2007 and 2008, the labor participation rate was 66%, however, the unemployment rate jumped from 4.6% in 2007 to 5.8% in 2008. For 2009 through 2011, the labor participation rate fell from 65.4% to 64.1%. For 2009 and 2010, the unemployment rate increased even though the labor participation rate was falling, indicating that actual unemployment was significantly higher. For 2010, there was a drop in the labor participation rate to 64.1% from 64.7% in 2011, and there was also a drop in the unemployment rate from 9.6% to 8.9%, indicating that while the unemployment rate was falling because the economy was creating some jobs, it was also falling because people were retiring or otherwise dropping out of the job market.

Interestingly from 2010 through 2015 there was a straight linear drop in both the labor force participation rates and the unemployment rates from respectively 64.7% to 62.7% and 9.6% to 5.3%.

In summary, it seems fair to say that the 4.0% unemployment rate in 2000 overstated the unemployment rate when the 67.1% participation rate for that year is compared to the average participation rate of 65.6% for this 21-year period. The bottom line here is that in analyzing the unemployment rate, one should consider the civilian labor force participation rate.

H. What has been the recent actual and the projected relationship between (1) the labor force participation rate, and (2) the potential labor force participation rate?

The CBO does an annual analysis of (1) the labor force participation rate, and what it refers to as, (2) the "potential labor force participation rate." It defines this latter rate as the "participation rate excluding the effects of the business cycle."[49] The CBO's *2016 Budget and Economic Outlook* contains the following analysis of the current participation and potential participation rates:

> **Labor Force Participation**. The rate of labor force participation has dropped noticeably in recent years. It fell by 0.3 percentage points, to 62.5 percent in 2015 [note that in Table 7-A above it is 62.7]]. That rate was roughly 1 percentage point below CBO's estimate of the potential participation rate. CBO projects that the participation rate will remain at 62.5 percent through 2016 and then fall by roughly 0.1 percentage point per year, reaching 62.1 percent at the end of 2019. . . . At the same time, the potential participation rate continues to fall in CBO's projection, also reaching 62.1 percent by the end of 2019.
>
> Those projected declines in actual and potential rates of labor force participation reflect several factors. The most important factor is the aging of members of the baby boom generation, even though that generation apparently has a stronger attachment to the labor force than that of people age 60 and over in

[49] *Id*. at 47, Table 2.7. .

recent generations. The lingering effects of the recession and ensuing weak recovery also will continue to push down participation, in CBO's view. Although many workers who experienced long-term unemployment because of the deep recession and slow recovery later found jobs, a notable fraction also left the labor force and remain categorized as not participating in the labor force. In addition, federal tax and spending policies—in particular, certain aspects of the ACA [Obamacare] and the structure of the tax code, which pushes some people with rising income into higher tax brackets—will tend to lower participation rates over the next several years. Finally, a set of long-term trends involving particular cohorts of people are projected to push down the participation rate slightly. Those trends include, for example, less participation in the labor force by younger and less-educated workers.

CBO's projection of the actual rate of labor force participation falls by less than its projection of the potential rate because the expected continued improvement in the labor market will bolster the actual rate. Some workers who left the labor force temporarily, or who stayed out of the labor force because of weak employment prospects, will enter it in the next few years as demand for labor strengthens.[50]

Figure 2.7 of the CBO's *2016 Budget and Economic Outlook* shows that while the negative gap between the potential and actual labor force participation rates grew from 2007 through 2013, the gap has been narrowing since 2013, and the CBO expects that the gap will be eliminated by late 2019.[51] In its "*Economic Outlook for 2021-2016*, the CBO projects that during this period, the "unemployment rate [will remain] stable at 5.0 percent, slightly above the estimated natural rate of 4.8 percent."[52] This means that the CBO expects that in these out years there will be no significant gap between potential and actual labor force participation rates.

I. In view of the recent positive trends in the labor market, what have been the recent trends in (1) household income, (2) the poverty rate, and (3) health coverage?

This section discusses the U.S. Census Bureau's September 2016 report on (1) real median household income, (2) the official poverty rate, and (3) the percentage of people without health insurance coverage. The report is consistent with the recent positive labor market trends that are discussed above. A Census Bureau news release summarizes the report as follows:

> The U.S. Census Bureau announced today that real median household income increased by 5.2 percent between 2014 and 2015 while the official poverty rate decreased 1.2 percentage points. At the same time, the percentage of people without health insurance coverage decreased.
>
> Median household income in the United States in 2015 was $56,516, an increase in real terms of 5.2 percent from the 2014 median income of $53,718.

[50] *Id.* at 44-46.
[51] *Id.* at 47.
[52] *Id.* at 48.

This is the first annual increase in median household income since 2007, the year before the most recent recession.

The nation's official poverty rate in 2015 was 13.5 percent, with 43.1 million people in poverty, 3.5 million fewer than in 2014. The 1.2 percentage point decrease in the poverty rate from 2014 to 2015 represents the largest annual percentage point drop in poverty since 1999.

The percentage of people without health insurance coverage for the entire 2015 calendar year was 9.1 percent, down from 10.4 percent in 2014. The number of people without health insurance declined to 29.0 million from 33.0 million over the period.

These findings are contained in two reports: *Income and Poverty in the United States: 2015* and *Health Insurance Coverage in the United States: 2015.*[53]

Issues involving inequality are discussed in Chapter 18, and issues involving medical care are discussed in Chapter 17.

J. What is the relationship between the unemployment rate and the growth of the labor market?

With growth in population, the labor market is constantly expanding, and therefore, the level of employment must grow just to keep the unemployment rate steady. In addressing this point, the *2004 Economic Report of the President* explained: "If the labor force is growing at the same rate as the population (about 1 percent per year), employment would have to rise 110,000 a month just to keep the unemployment rate stable, and larger job gains would be necessary . . . to induce a downward trend in the unemployment rate."[54] Thus, real economic growth is key to providing jobs for the expanding labor market.

K. What are the different types of unemployment?

Unemployment is divided into three types: frictional, structural, and cyclical. Frictional unemployment results from the normal operations of the labor markets as some businesses release employees and others hire them and as some employees quit one job and seek another for a variety of reasons, including the decision to change locations or careers. Frictional unemployment is unavoidable and in many respects is good for an economy because it can promote economic efficiency in the labor market.

Structural unemployment results when workers are replaced by significant changes in business operations, such as the adoption of new automation techniques and the outsourcing of jobs to foreign markets. The outsourcing of jobs has become a large issue and is discussed further below and in Chapter 23, which deals with taxes.

Cyclical unemployment occurs when the economy moves into a down business cycle or recession and is attributable to a decline in the growth of GDP. Thus, cyclical unemployment arises from the recessionary gap that results when potential GDP exceeds the equilibrium position of the AD and AS curves as demonstrated on Graph 6-D.

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[53] Census Bureau, News Release, *Income, Poverty and Health Insurance Coverage in the United States: 2015* (Sept. 13, 2016).

[54] *2004 Economic Report of the* President, *infra* Bibliography, note 1, at 94.

In view of these various types of unemployment and natural fluctuations in the economy, it is impossible to have a zero unemployment rate.

L. What are the unemployment rates for various racial groups?

Table 7-B, which is based on data from the *2016 Economic Report of the President*[55] presents the unemployment rates for selected racial groups in the U.S.

Table 7-B
Unemployment Rates for Selected Racial Groups 2015

RACE	UNEMPLOYMENT RATE 2015
Asian	3.8%
White	4.8%
Hispanic	6.5%
Black	9.6%
Whites 16-19	13.6%
Blacks 16-19	32%

Source: *2016 Economic Report of the President, infra* Bibliography, at Table B-12, Civilian Unemployment Rate 1972-2015; and Department of Labor, Bureau of Labor Statistics, The Employment Situation, September 2016, (Oct 7, 2016), Table A-2 Employment Status of the Civilian Population by Race, Sex and Age, for Blacks and Whites 16-19

Table 7-B demonstrates that blacks and Hispanics suffer greater unemployment than whites and Asians, with the black rate of unemployment about twice the white rate. Also, black teenagers suffered the highest rate of unemployment of any of the demographic groups reported. The 32% rate for black teenagers in 2015 is nearly 6-percentage points higher than the 26.2% rate in 2000,[56] the last year of the Clinton Administration. That 26.2% rate was the lowest rate for black teens since 1970.

This shows that while a booming economy, like the one during the late 1990s, provides significant job advantages for black teenagers, the jobs are quite vulnerable to the vagaries of the economy.

M. What is underemployment?

The unemployment rate does not measure the amount of underemployment, which occurs when people work in jobs for which they are overqualified. For example, in a tough economy, many college graduates work full-time in low paying jobs in the service industry. Once the economy turns, many will find jobs commensurate with their training and skill.

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[55] *2016 Economic Report of the President, infra* Bibliography, at Table B-12, Civilian Unemployment Rate 1972-2015; and Department of Labor, Bureau of Labor Statistics, The Employment Situation, September 2016 (Oct 7, 2016), Table A-2 Employment Status of the Civilian Population by Race, Sex and Age, for Blacks and Whites 16-19.

[56] *2012 Economic Report of the President, infra* Bibliography, note 1, at Table B-43, Civilian Employment Rate by Demographic Characteristic, 1963-2003.

N. How do we measure the number of jobs the economy creates or loses?

In addition to focusing on the rate of unemployment, much attention is given to the number of jobs the economy is creating or losing, for example, from layoffs. For example, in its discussion of the labor market, the *2016 Economic Report of the President* states:

> **Employment.** Nonfarm payroll employment rose solidly last year, and CBO expects it to continue to increase over the next few years, but more slowly. After an average increase of 228,000 jobs per month in 2015, employment is expected to rise by an average of about 172,000 jobs per month in 2016 and about 124,000 jobs per month in 2017, reflecting an anticipated slowdown in the decline in the unemployment rate and slower growth in the labor force because of the retirement of baby boomers (people born between 1946 and 1964). CBO's employment projections indicate that the number of people employed as a percentage of the population will be roughly unchanged over the next two years before falling steadily in later years as the rate of participation in the labor force falls (see Figure 2-6 on page 46).[57]

O. What is the relationship between the unemployment rate and potential and actual GDP?

Although there will always be some unemployment in the labor market, one way of thinking about full employment is to focus on the difference, if any, between (1) potential GDP, which is the level of real GDP the economy would produce if all resources including the naturally growing labor force were fully employed, and (2) actual GDP. Both of these concepts are explored in Chapter 6. If the economy grows at a rate at which actual GDP is below potential GDP, as illustrated in Graph 6-D, which demonstrates a recessionary gap, unemployment generally will increase. This is the situation that has existed since the financial crisis of 2007. On the other hand, if the economy grows at a rate that results in actual GDP exceeding potential GDP, as illustrated in Graph 6-E, which demonstrates an inflationary gap, unemployment generally will fall.

This relationship can be empirically verified by observing the behavior of the economy over the past 50 years. During this period, potential GDP grew at a steady rate, while the performance of actual GDP was erratic. On the one hand, there were periodic recessions in which the economy performed below its potential and the unemployment rate was high, and on the other hand, there were periodic booms during which the economy performed above its potential and the unemployment rate was low.

In pure economic terms, a major cost of unemployment is the loss in production that would otherwise have occurred without unemployment. However, even in boom times there will be some unemployment. For example, even in the boom of the late 1990s and early 2000s, the lowest unemployment rate reached was the 4.0 percent annual rate in 2000, the last year of the Clinton Administration. This was the lowest rate since the 3.5 percent annual rate for 1969, at the height of the Vietnam War.[58]

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[57] 2016 *Economic Report of the President*, *infra* Bibliography, at 43-44..
[58] *Id*. at Table B-42, Civilian Unemployment Rate, 1965-2011.

P. What is the relationship between (1) the rate of growth of GDP, and (2) the unemployment rate—Okun's Law and recent developments?

Okun's law addresses the relationship between the rate of economic growth and the rate of unemployment. This law posits that there will be a decrease in unemployment when economic growth is above the trend rate of approximately 2.25%. Specifically, Okun's law, which is not really a law but merely a description of past U.S. data, predicts that the unemployment rate will decline by one half of a percentage point for every one percentage point of growth in real GDP above the trend rate that continues for a year. Thus, for example, if the growth rate of real GDP for a year were 4.25%, which is two points above the trend rate, Okun's law predicts that unemployment would be expected to fall by 1%.

The *1999 Economic Report of the President* contains a graph illustrating Okun's law.[59] In general, the graph shows that periods of high growth rates are accompanied by declines in the unemployment rate, thus as a general matter validating the fundamental intuition behind the law. Therefore, as a general proposition, Okun's law can be used to predict the rate of economic growth needed to reduce the unemployment rate by, for example, one percentage point.

For the years since the 2007-2009 recession, the relationship between (1) the rate of growth of GDP, and (2) the decline in the unemployment rate, would seem to show that, at least for this period, Okun's law dramatically understates the impact that growth in GDP can have on employment. This is illustrated in Table 7-C below, which shows that even though growth was around 2%, there was a significant decline in the unemployment rate.

[59] 1999 *Economic Report of the President*, *infra* Bibliography, at 84.

Table 7-C
Relationship Between (1) Growth Rate of GDP, and (2) Unemployment Rate, 2010-2015

YEAR	GROWTH RATE OF GDP	UNEMPLOYMENT RATE
2010	2.5%	9.6%
2011	1.6%	8.9%
2012	2.2%	8.1%
2013	1.5%	7.4%
2014	2.4%	6.2%
2015	2.4%	5.3%

Source: *2016 Economic Report of the President, infra* Bibliography at Table B-1, Percent Change in Real Gross Domestic Product, 1965-2015, and Table B-12, Civilian Unemployment Rate, 1972-2015

Q. What is the difference between "Okun's Law" and the "Phillips Curve?"

The Phillips Curve, which is discussed in Chapter 9, posits that as unemployment decreases, inflation will increase. On the other hand Okun's law posits that as GDP grows, the unemployment rate will fall. Putting together the two, leads to the conclusion that as GDP grows, unemployment falls, and as unemployment falls, inflation increases.

R. What is the economic impact of unemployment insurance, an automatic stabilizer?

1. What is unemployment insurance?

The federal unemployment insurance program provides funds for a limited period to many who involuntarily lose their jobs. Thus, this program helps to cushion the blow from the loss of a job. The Federal government pays out substantial sums under this program during recessions, and most of the funds flow back into the economy as consumption expenditures, thereby buttressing this component of GDP at a time when it naturally would be contracting or growing at a reduced rate. Thus, from a macroeconomic standpoint, unemployment insurance is one of the automatic anti-depression and anti-recession programs built into the economy.

2. What is the recent level of unemployment insurance payments and what does it say about the current state of the labor market?

The Department of Labor issues a weekly report on the unemployment insurance program, and the Report for October 6, 2016 provided the following information on the number of new claims, the unemployment rate among employees covered by the program that are unemployed (that is, the insured unemployment rate), and the number of people receiving benefits.

> In the week ending October 1, the advance figure for seasonally adjusted initial claims was 249,000, a decrease of 5,000 from the previous week's unrevised level of 254,000. The 4-week moving average was 253,500, a decrease

of 2,500 from the previous week's unrevised average of 256,000. This is the lowest level for this average since December 8, 1973 when it was 252,250.

There were no special factors impacting this week's initial claims. This marks 83 consecutive weeks of initial claims below 300,000, the longest streak since 1970.

The advance seasonally adjusted insured unemployment rate was 1.5 percent for the week ending September 24, unchanged from the previous week's unrevised rate. The advance number for seasonally adjusted insured unemployment during the week ending September 24 was 2,058,000, a decrease of 6,000 from the previous week's revised level. This is the lowest level for insured unemployment since July 1, 2000 when it was 2,052,000. The previous week's level was revised up 2,000 from 2,062,000 to 2,064,000. The 4-week moving average was 2,094,750, a decrease of 21,000 from the previous week's revised average. This is the lowest level for this average since August 12, 2000 when it was 2,090,000. The previous week's average was revised up by 500 from 2,115,250 to 2,115,750.[60]

This report is great news for the labor market, for as indicated in the week ending October 1:

(1) the 4-week moving average for initial claims was at the "lowest level for this average since December 8, 1973;"

(2) the week marked the "83 consecutive weeks of initial claims below 300,000, the longest streak since 1970;"

(3) ensured employment was at its "lowest level for insured unemployment since July 1, 2000" and

(4) the 4-week moving average was at "the lowest level for this average since August 12, 2000.

S. Does the minimum wage law produce unemployment?

1. What are the federal and state minimum wages?

Federal law sets a minimum wage for many jobs, and state and local laws may set the minimum wage rates at even higher levels. The minimum wage is a legally mandated price floor on wages for certain jobs. Many jobs pay more than the minimum wage, and as Professor Krugman points out, "[f]or three decades, from the 1970s to the mid-2000s, the American minimum wage was so low that it was not binding for the vast majority of workers."[61]

The federal minimum wage has been at $7.25 an hour since 2009, and it is not indexed for inflation. There have been various congressional proposals to increase the minimum wage that have been generally supported by Democrats and opposed by Republicans. In 2014, President Obama issued an executive order raising the minimum wage for federal contractors to $10.10 per hour. The Fact Sheet announcing the increase explains:

On February 12, 2014, President Obama signed Executive Order 13658, "Establishing a Minimum Wage for Contractors," to raise the minimum wage to

[60] Department of Labor, *Unemployment Insurance Weekly Claims Report* (October 6, 2016).
[61] Krugman and Wells, *Macroeconomics Third*, *infra* Bibliography, at 223.

> $10.10 for all workers on Federal construction and service contracts. The President took this executive action because boosting wages lowers turnover and increases morale, and will lead to higher productivity overall. Raising wages will improve the quality and efficiency of services provided to the government.[62] The Executive Order directed the Department of Labor to issue regulations to implement the new Federal contractor minimum wage.

The rate is indexed for inflation.

In New York City, the current minimum wage is $8.38 per hour. In 2016 in Pennsylvania, Governor Wolf increased the minimum wage for government workers and contractors to $10.15 per hour. An article discussing this action in Pennsylvania, and also other recent actions in other states, explains:

> Pennsylvania Gov. Tom Wolf raised the minimum wage by nearly $3 an hour, to $10.15, for state government employees and workers on jobs contracted by the state in an executive order he signed Monday.
>
> The wage level, which will increase with inflation, was designed to be in line with the executive order signed by President Barack Obama in 2014 that required federal contractors to pay their workers at least $10.10 an hour, a figure that rises with inflation. . . .
>
> Pennsylvania wages are set at the decade-old federal minimum of $7.25 an hour, like 20 other states. Without federal action, numerous mayors, including Pittsburgh Mayor Bill Peduto, are bumping employee wages higher, some to $12 or $15 an hour.
>
> Democrat Andrew Cuomo used his power as New York's governor to order gradual wage increases for state employees, state university employees and workers at fast-food chain restaurants, to $15 an hour.
>
> Last week, Oregon Gov. Kate Brown signed legislation to raise that state's $9.25 an hour to as high as $14.75 in Portland by 2022. In Maine, voters will consider in November whether to raise that state's $7.50 minimum wage to $12 an hour, after Republican Gov. Paul LePage vetoed a measure in 2013.
>
> Last year, Illinois' Republican Gov. Bruce Rauner rescinded his Democratic predecessor's order to state vendors to pay employees $10 an hour, instead of the state's minimum wage of $8.25.[63]

2. What is the standard economic view on this issue?

The conventional wisdom among many economists is that minimum wage laws increase unemployment. For example, in his *Basic Economics* book, Thomas Sowell says: "When all is said and done, most empirical studies indicate that minimum wage

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[62] Department of Labor, *Fact Sheet: Final Rule to Implement Executive Order 13658, Establishing a Minimum Wage for Contractors*, (Feb. 12, 2014) at https://www.dol.gov/whd/flsa/eo13658/fr-factsheet.htm.

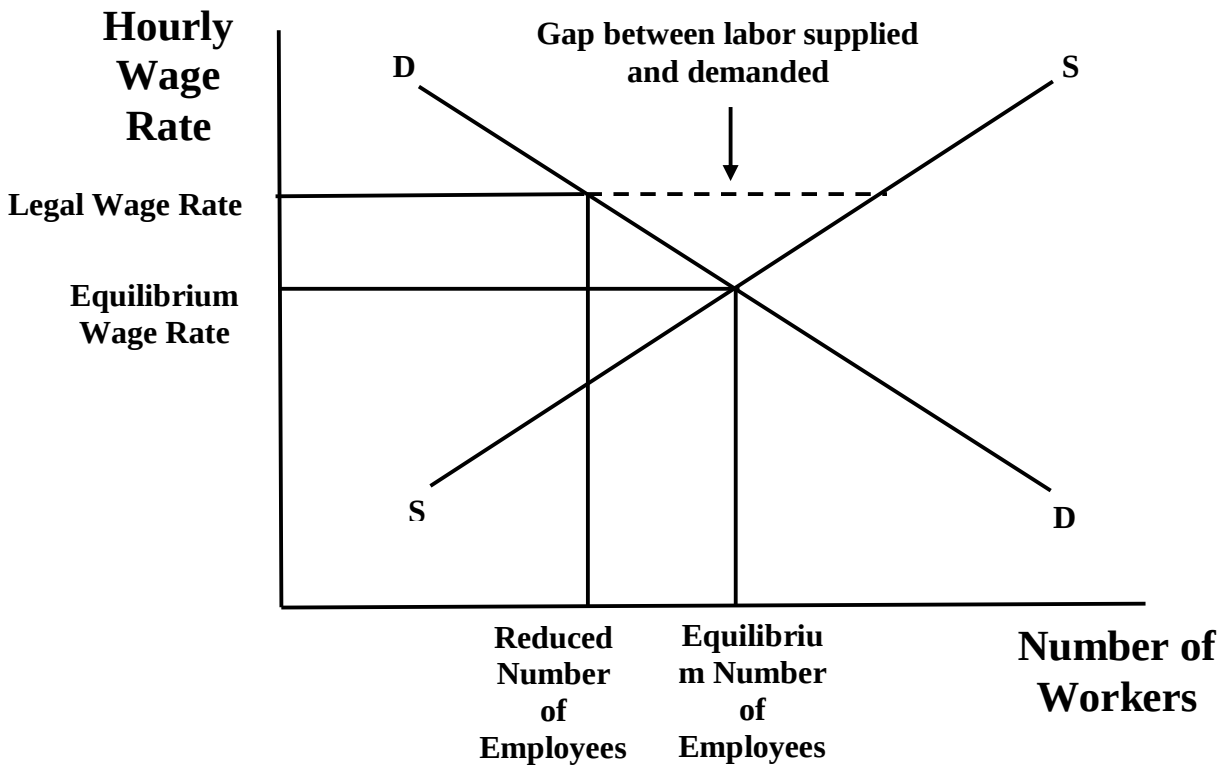
[63] Marc Levy, *Pennsylvania Governor Tom Wolf raising minimum wage for state workers*, Associated Press (March 7, 2016), at http://6abc.com/politics/gov-tom-wolf-raises-minimum-wage-for-pa-state-workers/1234231/

laws reduce employment in general, and especially the employment of younger, less skilled and minority workers."[64]

This conclusion is supported by simple economic reasoning using supply and demand curves in the labor market, with numbers of employees on the horizontal axis and hourly rate on the vertical axis. The intersection of the upward sloping supply curve, which shows that more labor will be offered at higher hourly rates, and the downward sloping demand curve, which shows that more labor will be demanded at lower hourly rates, gives the equilibrium point for hours worked and the hourly rate. If a minimum wage law imposes an hourly rate above the equilibrium rate, even though more labor will be supplied, less labor will be demanded, leading to a reduction in employment. This economic reasoning is demonstrated in Graph 7-A.

[64] Thomas Sowell, *Basic Economics* 165 (2004).

Graph 7-A
Illustration of Conventional Assumption that Minimum Wage Laws Increase Unemployment



The "Legal Wage Rate" in the above graph is a "price floor," and the graph is a traditional portrayal of the economic impact of a price floor:[65] here structural unemployment.

The following summary of an analysis published in the CATO's Policy Analysis supports this traditional view:

> While the aim is to help workers, decades of economic research show that minimum wages usually end up harming workers and the broader economy. Minimum wages particularly stifle job opportunities for low-skill workers, youth, and minorities, which are the groups that policymakers are often trying to help with these policies.
>
> There is no "free lunch" when the government mandates a minimum wage. If the government requires that certain workers be paid higher wages, then businesses make adjustments to pay for the added costs, such as reducing hiring, cutting employee work hours, reducing benefits, and charging higher prices. Some policymakers may believe that companies simply absorb the costs of minimum wage increases through reduced profits, but that's rarely the case. Instead, businesses rationally respond to such mandates by cutting employment and making other decisions to maintain their net earnings. These behavioral responses usually offset the positive labor market results that policymakers are hoping for.[66]

[65] Krugman and Wells, *Macroeconomics Fourth, infra* Bibliography at 111-113
[66] Wilson, *The Negative Effects of the Minimum Wage infra* Bibliography at 1.

3. What is the Card-Krueger view on this issue?

David Card and Alan Krueger have challenged the conventional wisdom behind the analysis in Graph 7-A. In a comparative study of states where the minimum wage rate has risen with states where it has not, they have found that increases in the minimum wage do not lead to unemployment.[67] Their research was one of the reasons the Clinton Administration proposed and the Congress enacted an increase in the federal minimum wage in 1996. Along the lines of the Card and Krueger study, Professor Krugman explains:

> [S]ome researchers have produced evidence showing that increases in the minimum wage actually lead to higher employment when, as was the case in the United States at one time, the minimum wage is low compared to average wages. They argue that firms that employ low-skilled workers sometimes restrict their hiring in order to keep wages low and that, as a result, the minimum wage can sometimes be increased without any loss of jobs.[68]

Professor Krugman goes on to say however that "[m]ost economists . . . agree that a sufficiently high minimum wage does lead to structural unemployment."[69]

4. What is the view of the Congressional Budget Office on this issue

In 2014 the Congressional Budget Office (CBO) conducted a detailed study of the economic impact of raising the minimum wage from the current $7.25 per hour to either $10.10 or $9.00.[70] The CBO summarized its results and the options as follows:

> **Summary.** Increasing the minimum wage would have two principal effects on low-wage workers. Most of them would receive higher pay that would increase their family's income, and some of those families would see their income rise above the federal poverty threshold. But some jobs for low-wage workers would probably be eliminated, the income of most workers who became jobless would fall substantially, and the share of low-wage workers who were employed would probably fall slightly.
>
> **What Options for Increasing the Minimum Wage Did CBO Examine?** For this report, the Congressional Budget Office (CBO) examined the effects on employment and family income of two options for increasing the federal minimum wage:
>
> - A "$10.10 option" would increase the federal minimum wage from its current rate of $7.25 per hour to $10.10 per hour in three steps—in 2014, 2015, and 2016. After reaching $10.10 in 2016, the minimum wage would be adjusted annually for inflation as measured by the consumer price index.
> - A "$9.00 option" would raise the federal minimum wage from $7.25 per hour to $9.00 per hour in two steps—in 2015 and 2016.

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[67] David Card and Alan Krueger, *Myth and Measurement: The Economics of the Minimum Wage* (1995).
[68] Krugman and Wells, *Macroeconomics Fourth*, infra Bibliography at 228.
[69] *Id.*
[70] CBO, *The Effects of a Minimum-Wage Increase, infra* Bibliography.

> After reaching $9.00 in 2016, the minimum wage would not be subsequently adjusted for inflation.[71]

The CBO summarized as follows the effects of the two options on employment and income:

> **What Effects Would Those Options Have?** The $10.10 option would have substantially larger effects on employment and income than the $9.00 option would—because more workers would see their wages rise; the change in their wages would be greater; and, CBO expects, employment would be more responsive to a minimum-wage increase that was larger and was subsequently adjusted for inflation. The net effect of either option on the federal budget would probably be small.
>
> **Effects of the $10.10 Option on Employment and Income.** Once fully implemented in the second half of 2016, the $10.10 option would reduce total employment by about 500,000 workers, or 0.3 percent, CBO projects. As with any such estimates, however, the actual losses could be smaller or larger; in CBO's assessment, there is about a two-thirds chance that the effect would be in the range between a very slight reduction in employment and a reduction in employment of 1.0 million workers (see Table 1).
>
> Many more low-wage workers would see an increase in their earnings. Of those workers who will earn up to $10.10 under current law, most—about 16.5 million, according to CBO's estimates—would have higher earnings during an average week in the second half of 2016 if the $10.10 option was implemented. . . .
>
> **Effects of the $9.00 Option on Employment and Income.** The $9.00 option would reduce employment by about 100,000 workers, or by less than 0.1 percent, CBO projects.
>
> There is about a two-thirds chance that the effect would be in the range between a very slight increase in employment and a reduction in employment of 200,000 workers, in CBO's assessment. Roughly 7.6 million workers who will earn up to $9.00 per hour under current law would have higher earnings during an average week in the second half of 2016 if this option was implemented, CBO estimates, and some people earning more than $9.00 would have higher earnings as well. The increased earnings for low-wage workers resulting from the higher minimum wage would total $9 billion; 22 percent of that sum would accrue to families with income below the poverty threshold, whereas 33 percent would accrue to families earning more than three times the poverty threshold, CBO estimates.
>
> For family income overall and for various income groups, CBO estimates the following:
>
> - Once the increases and decreases in income for all workers are taken into account, overall real income would rise by $1 billion.
> - Real income would increase, on net, by about $1 billion for families whose income will be below the poverty threshold under current law, boosting their average family income by about 1 percent and moving about 300,000 people, on net, above the poverty threshold.

[71] *Id*. at 2.

- Families whose income would have been between one and three times the poverty threshold would receive, on net, $3 billion in additional real income. About $1 billion, on net, would go to families whose income would have been between three and six times the poverty threshold.
- Real income would decrease, on net, by $4 billion for families whose income would otherwise have been six times the poverty threshold or more, lowering their average family income by about 0.1 percent.[72]

And, the CBO summarized as follows the effects of the two options on the federal budget:

> **Effects of a Minimum-Wage Increase on the Federal Budget.** In addition to affecting employment and family income, increasing the federal minimum wage would affect the federal budget directly by increasing the wages that the federal government paid to a small number of hourly employees and indirectly by boosting the prices of some goods and services purchased by the government. Most of those costs would need to be covered by discretionary appropriations, which are capped through 2021 under current law.
>
> Federal spending and taxes would also be indirectly affected by the increases in real income for some people and the reduction in real income for others. As a group, workers with increased earnings would pay more in taxes and receive less in federal benefits of certain types than they would have otherwise. However, people who became jobless because of the minimum-wage increase, business owners, and consumers facing higher prices would see a reduction in real income and would collectively pay less in taxes and receive more in federal benefits than they would have otherwise. CBO concludes that the net effect on the federal budget of raising the minimum wage would probably be a small decrease in budget deficits for several years but a small increase in budget deficits thereafter. It is unclear whether the effect for the coming decade as a whole would be a small increase or a small decrease in budget deficits.[73]

5. What is Secretary Clinton's position on the minimum wage?

Secretary Clinton's website sets out her position on the minimum wage as follows:

> **Raise the minimum wage**. At $7.25 per hour, the federal minimum wage isn't nearly enough to make ends meet. Americans who work 40 hours per week at the minimum wage earn just $15,080 a year—below the poverty threshold for a family of two or more. That's why Hillary wants to raise the federal minimum wage to $12 an hour—and why she supports city and state efforts to raise their own minimum wage even higher.

An article in the Wall Street Journal elaborated as follows on her position on the minimum wage:

> Mrs. Clinton engaged in an intense, months-long debate with Bernie Sanders over what the Democratic Party's national stance should be on raising the

[72] *Id.* at 1-3.
[73] *Id.* at 3.

federal minimum wage. She argued that the level should be raised, but resisted his call for a national $15-an-hour floor. In May she said the U.S. needs to raise the federal minimum wage "to the highest it's ever been in this country."

She said she supported a $12 federal minimum but thinks states or cities should be allowed to set higher floors if they have local support, as many localities have done. But in the end, the Sanders camp clocked a victory by getting the party to officially back a $15 an hour federal minimum wage, imposed "over time." Mrs. Clinton has not endorsed that plank, however.[74]

6. What is Mr. Trump's position on the minimum wage?

Mr. Trump's website does not seem to have a position on the minimum wage. However, in several statements, he has seemed to be on all sides of the issue. For example, the Wall Street Journal reports:

> [He has said:] "I don't know how people make it on $7.25 an hour. Now, with that being said, I would like to see an increase of some magnitude. But I'd rather leave it to the states." . . . [His] position on minimum wage has evolved since he has come under fire from labor unions and others for saying, in a November debate, that wages were "too high." A month later he tweeted that the middle class has had "no effective raise in years. BAD." [He] shifted more clearly as other rivals in the GOP nomination fight dropped out of the race.
>
> Days after he said he didn't "know how people make it on $7.25 an hour," he issued a tweet that he would like to see an increase in the minimum wage, but at other times said the rate should be left up to the states. He later signaled he might be willing to trade a minimum-wage increase to obtain another policy goal.
>
> [I]n late July [he] called for a $10 an hour federal minimum wage, breaking from the GOP's stance and moving more in line with Democrats.[75]

7. What is my take on the minimum wage?

a) What is my starting proposition?

I start from the proposition that, as I understand the arguments, even most opponents of an increase in the minimum wage would not support the complete repeal of the minimum wage. Assuming this is so, for most people the argument is not whether there should be a minimum wage, but how high should the minimum wage be? Clearly the minimum wage should not be set at, say, $50 per hour. However, in my view, the federal minimum wage should gradually be increased to the point at which it would approximate, on an inflation-adjusted basis, the $7.25 amount that was first applicable in 2009. This would put the minimum wage at approximately $10 per hour, which would lift many people out of poverty. That amount should then be indexed for inflation on a going forward basis. Adopting this type of increase would not put the U.S. minimum wage at anything close to the current minimum wage in many other industrialized

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[74] Melanie Trottman, *The Federal Minimum Wage, Clinton v. Trump, Where They Stand on Economic Policy Issues*, Wall Street Journal, visited Sept 24, 2016 at http://graphics.wsj.com/elections/2016/donald-trump-hillary-clinton-on-the-economy/.

[75] *Id.*

countries, for as Professor Krugman points out: "As of 2013, Australia had a minimum wage over twice as high as the U.S. rate, with France, Canada, and Ireland not far behind."[76]

b) What would be the "income effect" and the "substitution effect" of an increase in the minimum wage?

As indicated in Chapter 3, an increase in the minimum wage could have an income effect by encouraging less work and more leisure or a substitution effect by encouraging more work. For individuals who are not employed, an increase in the minimum wage can only have a substitution effect, which encourages a substitution of work for leisure. Thus, one advantage of raising the minimum wage is that it would bring more people into the workforce.

c) Do I support a two-tier minimum wage?

Also, I would consider a lower minimum wage for new workers and teenagers who are working part-time. These workers, on balance, are probably not contributing as much as full-time experienced workers. This type of two-tier policy would likely apply to a substantial number of employees who are receiving the minimum wage; for example, the following is a breakdown of the persons receiving the minimum wage:

> Only 20.8 percent of all minimum wage workers are family heads or spouses working full-time, 30.8 percent were children, and 32.2 percent are young Americans enrolled in school.[77]

It would seem most important from a public policy standpoint to ensure that "family heads or spouses working full-time" are receiving a living wage. This principle was discusses as follows in an opinion piece in support of a two-tiered system:

> We need to get creative — and initiate a two-tiered minimum-wage system that will give our young people the jobs they need and give family-supporting workers a living wage — while at the same time give our employers, especially our small businesses, a payroll system they can handle.
>
> Here's the way it would work: Today's minimum wage of $7.25 an hour would remain intact for those workers ages 16 to 22. These are young people, students mostly, who need the money for tuition or extra spending money. They are looking for job experience to help them grow up and be ready to work for a living.
>
> But for those slightly older people already in the workforce and supporting a spouse or raising a family (or those younger than 22 who have dependents), the minimum wage would be raised to $9 an hour.
>
> It is estimated that 40% of New York State households with children are supported by a single income of less than $10 an hour.
>
> This would help those men and women bring home a paycheck that will finally allow them to focus on one job at a time without scrambling to make it on two or three jobs and 12- and 14-hour workdays.

---

[76] Krugman and Wells, *Macroeconomics Fourth*, *infra* Bibliography at 116.
[77] Wilson, *The Negative Effects of the Minimum Wage infra* Bibliography at 3.

Such a two-tier system makes perfect sense[.][78]

Interestingly, unions and other supporters of labor would likely oppose this type of two-tier minimum wage for fear that employers would specifically hire employees in the lower tier at the expense of the employees in the higher tier. Steps could be taken to guard against, or at least minimize, such a practice.

d) How do I approach the argument that raising the minimum wage will decrease the level of employment?

First, I think this concern may be overstated as the Card-Krueger analysis, which is discussed above, demonstrates.

Second, given the findings of the CBO study discussed above, I am of the view that the adverse employment effect of raising the minimum wage to approximately $10 per hour would be, at most, *di minimis* compared to the benefit of moving people out of poverty. As noted, the CBO analysis projects that while (1) 500,000 people are likely to lose their jobs with an increase of the minimum wage to $10.10, (2) 16.5 million workers are likely to have higher earnings during an average workweek. For me this is an easy tradeoff, particularly in view of the CBO's projection that there would be a slight decrease in the deficit.

Third, I would strongly support efforts to reduce the adverse impact on any employee who loses his or her job because of the increase in the minimum wage.

e) Is there an ethical issue in the minimum wage debate?

I have one final point on the minimum wage. Paying a living wage to those who work is an ethical as well as an economic issue. However, even in economic terms, it is hard to see how a minimum wage at the levels that have been applicable in the U.S. could in any way be a drag on economic growth.

T. What is the relationship between the unemployment rate and the crime rate?

An article in Business Week magazine points out that there is sound economic evidence indicating that the crime rate drops significantly when the unemployment rate declines.[79] The article, which was written in 2000 when the economy was still booming, explains: "The hot economy is taking a bite out of crime. A spate of recent economic studies shows that although higher rates of apprehension and incarceration are important, the improvement in the labor market also accounts for a big share of the fall in the crime rate." The article features a study finding that the "2.6 percentage point fall in the U.S. unemployment rate between 1992 and 1997 accounted for about a 3.9% decrease in crimes per youth." The article also notes that another study found that "enhanced opportunities springing from a tight labor market can be particularly beneficial to young

[78] Tom Allon, *A two-tier minimum wage makes sense for both small business owners and their employees*, New York Daily News (February 22, 2012).

[79] Charles J. Whalen, *It is About Jobs, Stupid, Crime Falls as the Economy Expands*, Business Week, www.businessweek.com (August 28, 2000).

African Americans, a group overrepresented both in prison and in the low-wage workforce."

U. What impact does foreign outsourcing have on the unemployment rate?

There is a significant debate in this country concerning foreign outsourcing. Foreign outsourcing occurs when a company relocates a plant or operation from the U.S. to a foreign country and when a company closes down its U.S. operations and contracts to have the work performed by an unrelated company in a foreign jurisdiction.

The Bureau of Labor Statistics (BLS) of the Department of Commerce previously kept statistics on mass layoffs attributable to "domestic relocation" and "overseas relocation." This was done under a program titled: *Extended Mass Layoffs Associated with Domestic and Overseas Relocations*. However, the Department explains that this program was terminated because "these reasons do not reflect an economic reason, and instead relate to the effect of the actual reason."[80] Also, in May 2013, for budgetary reasons, the BLS discontinued its report on *Mass Layoffs* generally.

Although these reports have been discontinued, it is instructive to look at the quarterly report issued on June 10, 2004, which explains:

> Extended mass layoffs and separations associated with the movement of work, domestically or overseas, reflect job loss at companies employing at least 50 workers where at least 50 people filed for unemployment insurance during a five-week period and the layoff lasted more than 30 days. The extended mass layoff statistics and movement of work measures, therefore, do not reflect layoffs of less than 50 at these companies, nor do they capture layoffs occurring at establishments with less than 50 workers. . . . Similarly, these data do not cover situations in which firms initiate or transfer work to new locations when there are no layoffs involved.[81]

The report provides the following summary information on the level of domestic and foreign outsourcing in relation to the total number of workers who lost their jobs in the quarter: "Of the 239,361 private sector nonfarm workers who were separated from their jobs for at least 31 days in the first quarter of 2004, the separations of 4,633 workers were associated with the movement of work outside of the country. . . . Domestic relocation of work--both within the company and to other companies--affected 9,985 workers."[82] Domestic relocations were, therefore, about twice the level of foreign outsourcing. The report went on to say:

> From January to March 2004, job loss associated with the relocation of work was reported in 119 layoff events, resulting in the separation of 16,021 workers. . . . Three out of four events (90 out of 119) associated with movement of work occurred among establishments within the same company. In more than 7 out of 10 cases, the work activities were reassigned to places elsewhere in the U.S. In the 29 events in which work activities were reassigned to another

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[80] Department of Commerce, Bureau of Labor Statistics, *Frequently Asked Questions*, available at http://www.bls.gov/mls/mlsfaqs.htm#Question_10 (April 13, 2012).
[81] Department of Commerce, Bureau of Labor Statistics, *Extended Mass Layoffs Associated with Domestic and Overseas Relocations* (June 10, 2004).
[82] *Id.*

company under contractual arrangements, half of the instances involved relocation of work outside the U.S. and half to companies within the U.S.[83]

The report indicates that for the first quarter of 2004, about one third of outsourced jobs and of events involving outsourcing involved foreign outsourcing and that half of contract based outsourcing involved foreign outsourcing. If these figures are representative of what is happening with outsourcing, it would appear that foreign outsourcing could become a significant problem for U.S. employment. However, the *IMF 2004 U.S. Report*, an analysis of the U.S. economy, concludes: "Although data are sketchy, offshoring of jobs appears too small to have any significant impact on [overall employment] trends."[84]

Because outsourcing may be driven by tax considerations, such as the incentive for companies to engage in inversions, the positions of Secretary Clinton and Mr. Trump on outsourcing are examined in Chapter 23, which focuses on tax policy. Also, given the political importance of this issue, and the need to have adequate information to evaluate the policy issues, the BLS should reinstate both its reports on *Mass Layoff* and *Extended Mass Layoffs Associated with Domestic and Overseas Relocations*.

V. What are Senator Clinton's jobs proposals?

Senator Clinton's website sets out several proposals for increasing "good paying jobs." These proposals include the following:

> BREAK THROUGH WASHINGTON GRIDLOCK TO MAKE THE BOLDEST INVESTMENT IN GOOD-PAYING JOBS SINCE WORLD WAR II
> Our country has a strong bipartisan tradition of investing in our future—from Eisenhower's Interstate highway system, which unlocked the potential of the American economy and drove the rise of the middle class, to the Apollo program, which put a man on the moon and fueled giant leaps forward in technology and innovation. Hillary Clinton will break through the gridlock in Washington to make these investments, which have been a hallmark of American prosperity, once again possible.
>
> From her first day in office to her last, Hillary will make it a central priority to make sure that every American can find a good-paying job, with rising incomes across the board. That's why she will make the largest investment in good-paying jobs since World War II. These investments will not just create good jobs today, they will unlock the potential of our businesses to create good-paying jobs in the future. And she is setting a goal of a full employment, full-potential economy, where we break down barriers and create good-paying jobs in every community, for people across the country willing to work hard. That's why Hillary will:
>
> - Launch our country's boldest investments in infrastructure since we built the Interstate highway system [her infrastructure proposal is examined in Chapter 10];
> - Make audacious advancement in research and technology, creating the industries and jobs of the future;

[83] *Id.*
[84] International Monetary Fund, *U.S. Report* 8 (2004).

- Establish the U.S. as the clean energy superpower of the world—with half a billion solar panels installed by the end of her first term and enough clean renewable energy to power every home in American within ten years of her taking office;
- Strengthen American manufacturing with a $10 billion "Make it in America" plan;
- Cut red tape, provide tax relief and expand access to capital so small businesses can grow, hire and thrive;
- Ensure that the jobs of the future in caregiving and services are good-paying jobs, recognize their fundamental contributions to families and to America;
- Pursue smarter, fairer, tougher trade policies that put U.S. job creation first and that get tough on nations like China that seek to prosper at the expense of our workers – including opposing trade deals, like the Trans-Pacific Partnership, that do not meet a high bar of creating good-paying jobs and raising pay [her trade proposals are examined in Chapter 11];
- Commit to a full employment, full-potential economy and break down barriers so that growth, jobs, and prosperity are shared in every; community in America, no matter where you live and no matter your race, ethnicity, gender, sexual orientation, or disability;
- Appoint Fed governors who share the belief that maximum employment is an essential prong of the Federal Reserve's dual mandate [this mandate is addressed in Chapter 14].

W. What are Mr. Trump's jobs proposals?

In his September 15, 2016 speech to the New York Economic Forum, Mr. Trump set out the following general proposals for increasing the rate of economic growth and job creation:

> I believe it is time to establish a national goal of reaching 4% economic growth.
>
> In working with my economic team, we've put together a plan that puts us on track to achieve that goal. Over the next ten years, our economic team estimates that under our plan the economy will average 3.5% growth and create a total of 25 million new jobs. . . .
>
> This growth means that our jobs plan, including our childcare reforms, will be completely paid-for in combination with proposed budget savings. It will be deficit neutral. If we reach 4% growth, it will reduce the deficit. It will be accomplished through a complete overhaul of our tax, regulatory, energy and trade policies.
>
> Right now, under Obama-Clinton policies, the economy grew only 1.1 percent last quarter – that translates to millions of lost jobs.
>
> This is the weakest so-called recovery since the Great Depression. Over the last 7 years, the economy grew only 2.1 percent, the slowest period in seventy years. Had the economy grown under Obama at the same rate as Reagan, it would have meant 10 million more jobs.

Perhaps most shockingly, 1 in 6 men aged 18-34 are either in jail or out of work.

Meanwhile, another 2 million Hispanic-Americans have been added to the ranks of those in poverty.

X. What is my take on jobs proposals?

Both Senator Clinton and Mr. Trump have made several general proposals for creating jobs. Both have proposed infrastructure spending, addressed in Chapter 10, which clearly will promote job growth. However, in structuring any jobs plan, it is important to take into consideration that currently we are near full-employment, which, as indicated above, the CBO projects we will reach by 2019 under current policies. Also as indicated above, the level of unemployment payments is significantly below recent highs, indicating that we currently have a strong labor market.

While driving around any town will quickly demonstrate the need for more infrastructure spending, the spending should be prudently structured so as to (1) effectively address the infrastructure problem, (2) enhance employment, and (3) not create a significant risk of economically detrimental inflation. On the inflation point, the current rate of inflation is below the Fed's target of 2%, and this may show that the economy could take more spending without a substantial risk of spurring inflation beyond the 2% target.

Finally, both Senator Clinton and Mr. Trump discuss the problem with hard-to-employ individuals. For example, as indicated above in Table 7-B, the unemployment rate among blacks aged 16 to 19 is 32%, which is more than twice the 13.6% unemployment rate among whites aged 16 to 19. And, the 9.6% unemployment rate among blacks generally is twice the 4.8% unemployment rate among whites generally. Further, the 6.5% unemployment rate for Hispanics is nearly 2 percentage points higher than the unemployment rate among whites generally. This country needs to take proactive steps to reduce these disparities, for doing so will (1) benefit the lives of the hard-to-employ; (2) reduce the cost to society in the long run by, *inter alia*, reducing (a) the need for welfare payments, and (b) crime (*see* above); and (3) promote economic growth.

Indeed policies designed to get the hard-to-employ into jobs are supply-side policies.

Y. How is Employment Tracked?

The Administration's *Economic Report of the President*, the CBO's *Budget and Economic Outlook*, and the Fed's semi-annual *Monetary Report to Congress* contain analyses of the labor market. As indicated above, the Bureau of Labor Statistics (BLS) of the Department of Labor publishes a monthly report on the *Employment Situation* that contains a wealth of information on the labor market, including the current and historical rates of unemployment. Another closely watched economic report on the labor market is the BLS's *Unemployment Insurance Weekly Claims Report*, which is discussed above in connection with the examination of unemployment insurance. All of these reports can be obtained on the BLS website at www.bls.gov. As discussed above, the Wall Street Journal's Economic Forecasting Survey reports the results of the survey of economists on the actual and forecasted unemployment rates.

CHAPTER 8, WHAT IS THE RELATIONSHIP BETWEEN ECONOMIC GROWTH AND INFLATION?

A. What is in this Chapter?

This chapter looks at various aspects of inflation and the related concept of deflation. After introducing the topic and examining the manner in which inflation is measured, the chapter discusses the concerns economists have with both inflation and deflation. The chapter then looks at the difference between real and nominal interest rates and examines inflation in the context of the AD-AS model. Finally, the chapter discusses the manner in which inflation can be tracked.

B. What are Inflation, Deflation, and Disinflation?

Inflation is a sustained increase in the price level. For example, if the cost of a market basket of goods in 2015 was $100 and the cost of the same market basket in 2016 is $105, there would be an inflation rate of 5% between 2015 and 2016. Deflation is a decrease in the price level. Thus, if the same market basket in 2016 cost $95, there would have been approximately 5% deflation. Disinflation is a declining rate of inflation. Thus, if the rate of inflation for 2015 was 5% and the rate for 2016 is 4%, there would have been disinflation of 1 percentage point between 2015 and 2016.

C. How is inflation measured by the CPI, the Core CPI, the PPI, the GDP Deflator, and the PCE?

Each of these terms describes a method of measuring inflation, and each is explained here.

The CPI. A common measure of inflation is the consumer price index or CPI. The Bureau of Labor Statistics (BLS) of the Department of Commerce gives the following "Brief Explanation of the CPI:"

> **Brief Explanation of the CPI**
>
> The Consumer Price Index (CPI) is a measure of the average change in prices over time of goods and services purchased by households. The Bureau of Labor Statistics publishes CPIs for two population groups: (1) the CPI for Urban Wage Earners and Clerical Workers (CPI-W), which covers households of wage earners and clerical workers that comprise approximately 28 percent of the total population and (2) the CPI for All Urban Consumers (CPI-U) and the Chained CPI for All Urban Consumers (C-CPI-U), which covers approximately 89 percent of the total population and includes, in addition to wage earners and clerical worker households, groups such as professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, and retirees and others not in the labor force.
>
> The CPIs are based on prices of food, clothing, shelter, fuels, transportation fares, charges for doctors' and dentists' services, drugs, and other goods and services that people buy for day-to-day living. Prices are collected each month in 87 urban areas across the country from about 6,000 housing units and

approximately 24,000 retail establishments-department stores, supermarkets, hospitals, filling stations, and other types of stores and service establishments. All taxes directly associated with the purchase and use of items are included in the index. Prices of fuels and a few other items are obtained every month in all 87 locations. Prices of most other commodities and services are collected every month in the three largest geographic areas and every other month in other areas. Prices of most goods and services are obtained by personal visits or telephone calls of the Bureau's trained representatives.

In calculating the index, price changes for the various items in each location are averaged together with weights, which represent their importance in the spending of the appropriate population group. Local data are then combined to obtain a U.S. city average. For the CPI-U and CPI-W separate indexes are also published by size of city, by region of the country, for cross-classifications of regions and population-size classes, and for 27 local areas. Area indexes do not measure differences in the level of prices among cities; they only measure the average change in prices for each area since the base period. For the C-CPI-U data are issued only at the national level. It is important to note that the CPI-U and CPI-W are considered final when released, but the C-CPI-U is issued in preliminary form and subject to two annual revisions.

The index measures price change from a designed reference date. For the CPI-U and the CPI-W the reference base is 1982-84 equals 100. The reference base for the C-CPI-U is December 1999 equals 100. An increase of 16.5 percent from the reference base, for example, is shown as 116.500. This change can also be expressed in dollars as follows: the price of a base period market basket of goods and services in the CPI has risen from $10 in 1982-84 to $11.65.[85]

The Core CPI-U. Another measure of consumer inflation is what is referred to as the core CPI-U, which is the CPI-U excluding food and energy prices. These items are excluded because they are subject to broad swings in prices due to climate in the case of food and geopolitical factors in the case of energy.

The PPI. The BLS gives the following explanation of its Producer Price Index or PPI:

> The Producer Price Index (PPI) of the Bureau of Labor Statistics (BLS) is a family of indexes that measure the average change over time in the prices received by domestic producers of goods and services. PPIs measure price change from the perspective of the seller. This contrasts with other measures, such as the Consumer Price Index (CPI). CPIs measure price change from the purchaser's perspective. Sellers' and purchasers' prices can differ due to government subsidies, sales and excise taxes, and distribution costs.[86]

The GDP deflator. The GDP deflator, which is the ratio of nominal GDP to real GDP, differs from the CPI in that it measures price changes of all goods produced in the domestic economy. Whereas the CPI measures the price of a model basket of goods and includes imported items, the GDP deflator does not include imported goods. Thus, for example, oil is a larger part of the CPI than of the GDP deflator, because a significant

[85] *BLS Consumer Price Index, August 2016*.
[86] *BLS Consumer Price Index, August 2012*.

amount of oil is imported. The *2004 Economic Report of the President* describes the differences between the CPI and GDP deflator:

> The GDP price index increases less rapidly than the CPI because it reflects the choices of households and businesses to shift their purchases away from items with increasing relative prices and toward items with decreasing relative prices. In addition, the GDP price index includes investment goods, such as computers, whose relative prices have been falling rapidly. Computers, in particular, receive a much larger weight in the GDP price index (0.8 percent) than in the CPI (0.2 percent).[87]

The PCE. Finally, personal consumption expenditures (PCE) can be used in measuring inflation. As explained by the Bureau of Economic Analysis of the Department of Commerce:

> [The PCE] is the primary measure of consumer spending on goods and services in the U.S. economy. It accounts for about two-thirds of domestic final spending, and thus it is the primary engine that drives future economic growth. PCE shows how much of the income earned by households is being spent on current consumption as opposed to how much is being saved for future consumption.
>
> PCE also provides a comprehensive measure of types of goods and services that are purchased by households. Thus, for example, it shows the portion of spending that is accounted for by discretionary items, such as motor vehicles, or the adjustments that consumers make to changes in prices, such as a sharp run-up in gasoline prices.[88]

The BEA reports PCE and disposable personal income (DPI) on a nominal and real basis monthly in a report entitled Personal Income and Outlays. The February 2012 report summarized as follows the results for February 2012:

> Personal income increased $39.3 billion (0.2 percent) in August according to estimates released today by the Bureau of Economic Analysis. Disposable personal income (DPI) increased $31.9 billion (0.2 percent) and personal consumption expenditures (PCE) increased $6.2 billion (less than 0.1 percent).
>
> Real DPI increased 0.1 percent in August and Real PCE decreased 0.1 percent. The PCE price index increased 0.1 percent. Excluding food and energy, the PCE price index increased 0.2 percent.[89]

D. What was the CBO's assessment of inflation in its 2016 Budget and Economic Outlook?

In the assessment of the potential for inflation in its *2016 Budget and Economic Outlook*, the CBO referred to both the PCE and the CPI:

> **Inflation**
>
> CBO anticipates that prices will rise at a modest pace over the next few years, consistent with its projection of the remaining—but diminishing—slack in the economy

[87] 2004 *Economic Report of the President*, *infra* Bibliography, at 96.
[88] BEA, *Chapter 5: Personal Consumption Expenditures*, at http://www.bea.gov/national/pdf/ch5%20PCEforposting.pdf (April 14, 2012).
[89] BEA, *Personal Income and Outlays, August 2016* (Sept. 30, 2016).

and with widely held expectations for low and stable inflation. The agency projects that the rate of inflation in the price index for personal consumption expenditures (PCE price index) will rise to 1.5 percent this year, up from 0.5 percent in 2015 (see Figure 2-10 on page 50). The decline in energy prices and the increase in the exchange value of the dollar [which made imports less expensive] exerted downward pressure on inflation last year. CBO expects inflation to rise in 2016 as the temporary downward pressure from the decline in energy prices dissipates and the remaining slack in the economy diminishes.

In 2017, the agency projects, inflation will stabilize at 2.0 percent—the Federal Reserve's longer-run goal [*see* Chapter 14]. That projection reflects CBO's judgment that consumers and businesses expect the Federal Reserve to adjust monetary policy [*see* Chapter 14] to prevent inflation from exceeding or falling short of the 2 percent goal for a prolonged period. CBO has a similar projection for core PCE inflation, which excludes food and energy prices; in CBO's forecast, that inflation rate reaches 2 percent at the end of 2017.

The consumer price index for all urban consumers (CPI-U) and its core version are expected to increase a little faster than their PCE counterparts because of the different methods used to calculate them. CBO projects that the difference between inflation as measured by the CPI-U and inflation in the PCE price index will generally be about 0.4 percentage points per year—close to the average difference over the past several decades.[90]

E. What is the concern with inflation?

Economists have identified several problems with high rates of inflation, including:

(1) inflation tends to harm lenders of money and to benefit borrowers because borrowers can repay in inflated dollars,

(2) severe inflation makes it risky for businesses to enter long-term contracts and, therefore, can dampen investment spending,

(3) in addition to discouraging investment spending, inflation can also discourage saving, and

(4) the tax system generally does not distinguish between inflation and non-inflation income, such as between nominal and real interest, as discussed below.

However, most economists seem to think that steady low rates of inflation, that is, annual inflation rates below 2% or 3%, are desirable or at least acceptable.

F. Is there a concern with deflation?

It might appear that a decrease in the price level, that is, deflation, would be desirable. However, as indicated in the following testimony of Alan Greenspan, a former Chairman of the Federal Reserve Board, there is reason to avoid deflation:

A very low inflation rate increases the risk that an adverse shock to the economy would be more difficult to counter effectively. Indeed, there is an especially pernicious, albeit remote, scenario in which inflation turns negative against a backdrop of weak aggregate demand, engendering a corrosive deflationary spiral.

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[90] *2016 Budget and Economic Outlook, infra* Bibliography, at 47-48.

> Until recently, this topic was often regarded as an academic curiosity. Indeed, a decade ago, most economists would have dismissed the possibility that a government issuing a fiat currency [fiat currency is discussed in Chapter 14] would ever produce too little inflation [that is, disinflation or deflation]. However, the recent record in Japan [with deflation] has reopened serious discussion of this issue. To be sure, there are credible arguments that the Japanese experience is idiosyncratic. But there are important lessons to be learned, and it is incumbent on a central bank to anticipate any contingency, however remote, if significant economic costs could be associated with that contingency.[91]

Professor Mishkin, the author of the *Economics of Money*, is more direct: "Deflation …is especially to be feared because of the possibility that it may promote financial instability and precipitate a severe economic contraction."[92] Thus, it seems that moderate levels of inflation can contribute to the growth of the economy.

G. What inflation rate does the U.S. Federal Reserve Board "aim" for and why?

As discussed more fully in Chapter 14, which deals with monetary policy, in answering the question on its website: "Why does the Federal Reserve aim for 2 percent inflation over time?", the Fed responds:

> The Federal Open Market Committee (FOMC) judges that inflation at the rate of 2 percent (as measured by the annual change in the price index for personal consumption expenditures, or PCE) is most consistent over the longer run with the Federal Reserve's mandate for price stability and maximum employment. Over time, a higher inflation rate would reduce the public's ability to make accurate longer-term economic and financial decisions. On the other hand, a lower inflation rate would be associated with an elevated probability of falling into deflation, which means prices and perhaps wages, on average, are falling--a phenomenon associated with very weak economic conditions. Having at least a small level of inflation makes it less likely that the economy will experience harmful deflation if economic conditions weaken. The FOMC implements monetary policy to help maintain an inflation rate of 2 percent over the medium term.

As of 2004, all countries that followed a stated policy of targeting a particular inflation rate (that is, engage in inflation targeting) had "set their inflation targets above zero."[93] The following countries had set the indicated midpoints as their inflation targets: New Zealand, 1.5%, Canada and Sweden, 2%, and the U.K. and Australia, 2.5%.[94]

H. What is the relationship between inflation and interest rates?

The nominal rate of interest on a fixed rate loan is the yield the lender receives for making the loan; there are no adjustments for the fact that there may have been changes

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[91] Testimony of Chairman Alan Greenspan, *Federal Reserve Board's Semiannual Monetary Policy Report to the Congress,* Before the Committee on Financial Services, U.S. House of Representatives (July 15, 2003).
[92] *Economics of Money*, *infra* Bibliography, at 507.
[93] *Economics of Money*, *infra* Bibliography, at 507.
[94] *Id*.

in the buying power of dollars between the time the money is loaned and the time it is paid back. Thus, there is no adjustment for any fall in purchasing power due to inflation. On the other hand, the real rate of interest is the nominal or actual yield on the loan less the rate of inflation. Thus, for example, if a bank makes a one year loan of $1000 at a 10% rate of interest, and the rate of inflation during the year is 4%, even though the nominal rate of interest is 10% the real rate of interest is just 6%, the difference between the nominal rate and the rate of inflation.

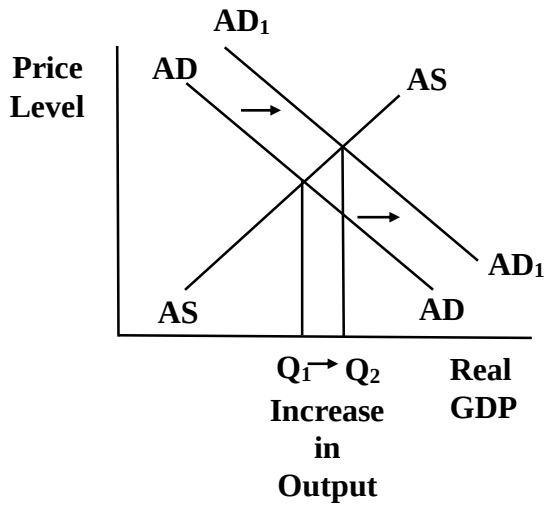
During periods of significant inflation, lenders that make fixed rate loans are harmed as the inflation rate eats into their real returns, and borrowers are benefited as they repay the loans in inflated dollars. To guard against this type of situation, many lenders make floating rate loans, which help ensure that the lender receives its expected real rate of return.

The tax code does not distinguish between nominal and real rates of interest, and all interest income is included in the taxable income of the lender and, subject to certain exceptions, all interest payments are deductible in computing the taxable income of the debtor.

I. How is Demand Side inflation illustrated in the AD-AS Model?

Demand side inflation occurs as a result of an outward shifting of the aggregate demand (AD) curve at a time when the aggregate supply (AS) curve is relatively steep and does not also shift outward. This is shown on Graph 8-A.

Graph 8-A
Illustration of Demand Side Inflation



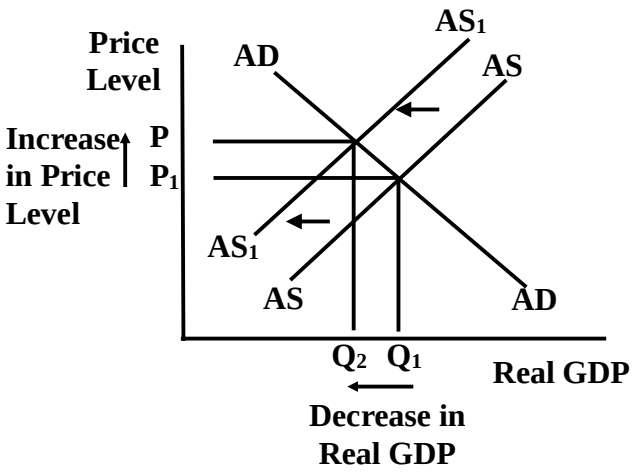
Here the rightward shift in the AD curve can come from an increase in any of the components of GDP, that is, from consumption (C), investment (I), government (G), or foreigners (X-IM). With the relatively steep and non-shifting AS curve, this leads to both greater GDP and also a greater price level (that is, inflation). Thus, in this case, inflation occurs because expenditures on AD grow more rapidly than real GDP.

J. How is Supply Side inflation illustrated in the AD-AS Model?

Supply side inflation occurs as a result of a supply shock, such as a significant decrease in the supply of oil that causes the AS curve to shift to the left, while the AD curve is steep and does not also shift to the left. This is illustrated in Graph 8-B.

:

Graph 8-B
Illustration of Supply Side Inflation

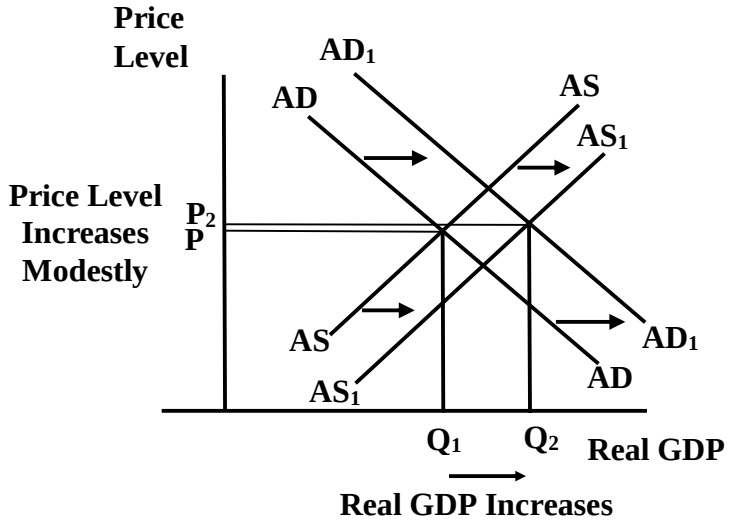


Here, a supply shock, such as the one that occurred in the 1970s with a dramatic increase in oil prices, shifts the AS curve to the left, thereby resulting in a decrease in real GDP and an increase in prices. This is an illustration of stagflation, which is inflation that occurs when there is either (1) a slow growth in real GDP, that is, the economy is stagnating, or (2) a recession.

K. What happens with inflation when both the AD and AS curves shift outward in a growing economy?

If both the AD and the AS curves shift to the right in a growing economy, there will be both an increase in real GDP and a slight increase in inflation, as illustrated in Graph 8-C.

Graph 8-C
Illustration of High Growth with Slight Inflation as the AD and AS Curves Shift Rightward



Because of shifts in both the AD and AS curves, real GDP increases proportionately more than the price level; thus, there is economic growth with low inflation. This is what occurred in the late 1990s during the Clinton Administration, and as indicated in its *2016 Budget and Economic Outlook*, the CBO expects to to take place from 2021 through 2026:

> In CBO's projections for the 2021–2026 period:
>
> - Actual and potential real GDP grow at an annual average of roughly 2.0 percent per year.
> - The unemployment rate remains stable at 5.0 percent, slightly above the estimated natural rate of 4.8 percent.
> - Both overall inflation and core inflation, as measured by the PCE price index, average 2.0 percent per year, and inflation as measured by the CPI-U is slightly higher, on average.
> - The interest rates for 3-month Treasury bills and 10-year Treasury notes average 3.2 percent and 4.1 percent, respectively.[95]

L. How is inflation tracked?

The Administration's *Economic Report of the President*, the CBO's *Budget and Economic Outlook*, and the Fed's semi-annual *Monetary Report to Congress* contain analyses of inflation. As discussed above, the Bureau of Labor Statistics (BLS) of the Department of Labor promulgates the CPI every four weeks. The BLS also promulgates the Producer Price Index (PPI), which comes out the third Monday of the month. These and other items relating to inflation are available on the BLS website at www.bls.gov. As indicated above, the Bureau of Economic Analysis of the Department of Commerce puts

[95] *2016 Budget and Economic Outlook, infra* Bibliography, at 48.

out a monthly report on PCE, which is available on its website at www.bea.gov. In addition, the Wall Street Journal's *Economic Forecasting Survey* provides forecasts by economists of, *inter alia*, inflation.

CHAPTER 9, WHAT ARE THE TRADEOFFS AMONG ECONOMIC GROWTH, INFLATION, AND EMPLOYMENT?

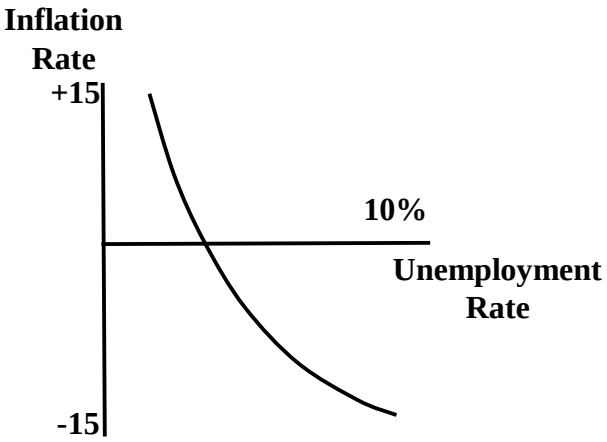
A. What is in this Chapter?

This chapter integrates the analysis of employment and inflation, which are examined in the preceding two chapters. The chapter explores two policy tools that can be helpful in determining the trade-offs between employment and inflation: the Phillips curve and the nonaccelerating inflation rate of unemployment, NAIRU.

B. What is the Phillips Curve?

The purpose of the Phillips curve is to describe the empirical relationship between the rate of inflation and the rate of unemployment. In general, the lower the rate of unemployment, the higher the rate of inflation. Thus, the Phillips curve predicts an inverse relationship between these two factors, indicating that the economy faces a trade-off between unemployment and inflation. Graph 9-A is a diagram of the Phillips Curve.

Graph 9-A
Diagram of the Phillips Curve



Graph 9-A shows that as the rate of unemployment, which is measured on the horizontal axis, falls, the rate of inflation, which is measured on the vertical axis, rises. The Phillips curve thus predicts that a lower rate of unemployment, which will result from accelerating economic growth, can only be obtained by incurring more inflation.

C. Is the Phillips Curve accurate?

During the 1960s, policy makers often viewed the Phillips curve as offering a choice between lower inflation and higher unemployment as occurred in 1961, and higher inflation and lower unemployment, as occurred in 1969.[96] Thus, in the 1960s the Phillips curve seemed to offer valid predictions. However, in the 1970s and 1980s the empirical relationship seemed to break down, with the economy experiencing stagflation**.** With stagflation resulting from negative supply shocks that shift the AS curve inward, the economy experienced both high rates of unemployment and high rates of inflation. On the other hand, positive supply shocks, such as the increase in productivity that occurred in the 1990s, that shift the AS curve to the right will generate low unemployment and low inflation, which was the case in the late 1990s. Thus, recent empirical evidence has not been particularly consistent with the predictions of the Phillips curve. For example, in the late 1990s, there was both low unemployment and low inflation, indicating that the Phillips curve may not apply in the New Economy.

The Phillips curve is related to the concept of the nonaccelerating inflation rate of unemployment (NAIRU), which is explored below.

[96] Baumol and Binder, *Economics 2003*, *infra* Bibliography, at 668.

D. What is the difference between "Okun's Law" and the "Phillips Curve?"

As discussed above, the Phillips Curve posits that as unemployment decreases, inflation will increase. On the other hand Okun's Law, which is discussed in Chapter 7, posits that as GDP grows, the unemployment rate will fall. Putting together the two, leads to the conclusion that as GDP grows, unemployment falls, and as unemployment falls, inflation increases.

E. What is the Nonaccelerating Inflation Rate of Unemployment—NAIRU?

The *1999 Economic Report of the President* addresses the concept of the nonaccelerating inflation rate of unemployment, or NAIRU, by first indicating that the prevailing view in the 1960s was that lower rates of unemployment would come only with higher rates of inflation as predicted by the Phillips curve, which is addressed above.[97] The Report points out that although in the 1960s the "full-employment unemployment rate was thought to be about 4 percent," the experience of the 1970s helped persuade economists that, if the unemployment rate decreased below a certain level, prices would not just increase but the increase would accelerate."[98] This rate of full employment unemployment became known as the nonaccelerating inflation rate of unemployment, or NAIRU. The Report went on to say: "Although the NAIRU is an indicator of the risk of inflation, estimates of the NAIRU have a wide band of uncertainty and should be used carefully in formulating policy. The NAIRU implicit in the Administration's forecast has drifted down in recent years and is now within a range centered on 5.3 percent."[99]

F. Is NAIRU accurate?

Even though the *1999 Economic Report of the President* says that NAIRU in 1999 was "within a range centered on 5.3%," the unemployment rate in 1999 was 4%, and the inflation rate for 1999 was just 2.2%. Thus, the 4% rate of unemployment in 1999 did not seem to cause an acceleration in the rate of inflation. However, it must be noted that the inflation rate for 2000 was 3.3%, which was the highest rate in the 1994-2002 period, and this may have been related to the low rates of unemployment in 1999 (4%) and 2000 (3.9%).

Also, as indicated in the its *2016 Budget and Economic Outlook,* for the period from 2012 to 2026, the CBO expects (1) "the unemployment rate [to] remain[] stable at 5.0 percent, slightly above the estimated natural rate of 4.8 percent," and (2) "Both overall inflation and core inflation, as measured by the PCE price index, [to] average 2.0 percent per year[.]"[100]

G. How can the Phillips Curve and NAIRU be used as policy tools?

Both the Phillips curve and NAIRU are based on an assumption of an inverse relationship between employment and inflation, that is, as the rate of unemployment

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[97] *1999 Economic Report of the President, infra* Bibliography, at 24.
[98] *Id.*
[99] *Id.*
[100] *2016 Budget and Economic Outlook, infra* Bibliography, at 48.

decreases, the rate of inflation increases. Thus, both of these concepts could lead the Fed, as the controller of monetary policy, and the President and the Congress, as the controllers of fiscal policy, to be hesitant to adopt policies to spur economic growth for fear that the resulting lower unemployment rate can only be attained at the price of higher inflation. However, as the performance of the economy in the late 1990s shows, strong economic growth with the attendant low unemployment rate may be attainable without incurring a heavy price with inflation. Thus, policy makers should in general not be too quick to fight inflation, because in doing so they may needlessly prevent the nation from realizing the substantial benefits that come with a low rate of unemployment. On the other hand, policy makers should not be blind to the predictions of the Phillips curve and NAIRU, because to do so could lead to high inflation rates that could have a deleterious effect on long-term economic growth.

CHAPTER 10, HOW DOES THE EXPENDITURE MULTIPLIER IMPACT ECONOMIC GROWTH, AND HOW WOULD IT IMPACT THE INFRASTRUCTURE SPENDING PROPOSALS OF SENATOR CLINTON AND MR. TRUMP?

A. What is in this Chapter?

This chapter shows how an increase or decrease in the spending on any of the components of GDP can have a multiplying effect on GDP. The chapter starts with a discussion of the very important concept of the marginal propensity to consume and then examines how changes in consumer spending resulting from such factors as changes in tax rates or the wealth effect can affect aggregate demand. The chapter then examines various aspects of the expenditure multiplier or what is referred to as the multiplier effect, and illustrates the impact of the multiplier effect on the aggregate demand curve.

Although the expenditure multiplier discussed here is different from the money multiplier discussed in Chapter 14, which deals with monetary policy, they are based on the same mathematical principle.

Finally, this chapter looks at the infrastructure proposals of Secretary Clinton and Mr. Trump, and examines the potential multiplier effect of those proposals on the growth of GDP

B. What is the Marginal Propensity to Consume (MPC)?

Diagram 4-A, the circular diagram of GDP, shows that disposable personal income (DPI), point [13] on the diagram, goes to consumers, point [1] on the diagram. Consumers divide DPI between consumption spending (CS), point [2a], and savings, point [2b]. The consumption function, which is otherwise known as the marginal propensity to consume (MPC), expresses the relationship between total CS and total DPI, holding all other determinants of CS constant. The MPC is the ratio of the change in CS to the change in DPI. For example, if DPI increases by $100 million and CS increases by $90 million, then the MPC is .9 or 90%. As a formula, MPC= Change in CS ($90M)/Change DPI ($100M) =.9.

C. How do changes in consumer spending affect the Aggregate Demand Curve?

As discussed in Chapter 4, Consumption spending (CS), the largest component of GDP, is generally around 70% of GDP. Consequently, increases or decreases in CS can have a significant impact on GDP. In terms of the AD-AS model, across the board changes in the level of CS, which are referred to as autonomous shifts in CS, will cause the AD curve to shift. These across the board shifts can come from, among other things, a change in tax policy, a change in consumer wealth, which is referred to as the wealth effect, or as discussed more fully below, a change in infrastructure spending. Autonomous increases in CS will shift the AD curve outward to the right, thereby increasing both GDP and the price level, assuming an upward sloping AS curve. On the other hand, autonomous decreases in CS will shift the AD curve inward to the left, thereby decreasing both GDP and the price level, assuming an upward sloping AS curve.

D. What Impact do changes in federal tax policy have on consumption spending and the Aggregate Demand Curve?

Changes in federal tax policy can cause an autonomous shift in CS. Reductions in taxes can cause an autonomous increase in CS, and this will cause an outward shift in the AD curve, which generally will result in an increase in both GDP and the price level. On the other hand, an increase in taxes can cause an autonomous decrease in CS, and this will cause an inward shift in the AD curve, which generally will lower both GDP and the price level.

E. What Impact does the "Wealth Effect" have on consumption spending and the Aggregate Demand Curve?

The *1999 Economic Report of the President* points out that one of the factors that can cause an upward shift in the MPC is the wealth effect. In explaining this concept, the Report says: "An increase in a person's net worth raises the amount that he or she can consume, either today or in the future. Statistical evidence suggests that consumer spending has tended to rise or fall by roughly 2 to 4 cents per year for every dollar that stock market wealth rises or falls."[101] Thus, an increase in wealth as a result of a rising stock market can cause an autonomous increase in CS, and this will cause an outward shift in the AD curve, which generally will result in an increase in both GDP and the price level. On the other hand, a decrease in wealth as a result of a falling stock market can cause an autonomous decrease in CS, and this will cause an inward shift in the AD curve, which generally will lower both GDP and the price level.

F. What is the Multiplier Effect of an increase in consumption spending?

An autonomous increase in consumption spending (CS) has a multiplier effect because those who receive this spending (the first order of spending) will themselves spend a portion of the income received in a second order of spending. The recipients of this second order of spending will in turn spend a portion of their income in a third order of spending. This process will continue to the point discussed below.

For example, assume that Disposable Personal Income (DPI) increases by $100 million due to a tax cut which goes to consumer Group 1, and the MPC of this group is, say, 75%. As a first order effect, CS will increase by $75 million (75% of $100M). Assuming that all of this $75 million ends up in the hands of consumer Group 2, and that the MPC of this group is also 75%, as a second order effect, Group 2 will spend $56.2 million (75% of $75M) on CS. Assuming again that this $56.2 million ends up in the hands of consumer Group 3, which also has an MPC of 75%, as a third order effect Group 3 would spend $42.2 million (75% of $56.2M) in consumer spending. Continuation of the math with the assumptions that all the spending ends up in the hands of consumers and that the MPC is 75% would lead to an increase in GDP that was 4 times the initial $100 million of spending, or $400 million of GDP.

Algebraically the multiplier can be determined by the sum of geometric progression, which is determined in Equation 10-A.

Equation 10-A
Determination of the Multiplier

[101] *1999 Economic Report of the President, infra* Bibliography, at 67.

$$\text{Multiplier} = \frac{1}{1 - R}$$

In Equation 10-A, R = the MPC. Thus, if the MPC = .75, the multiplier = 4, which is calculated in Equation 10-B.

Equation 10-B
Illustration of Multiplier Formula with MPC of 75%

$$\begin{aligned} Multiplier &= \frac{1}{1 - R} = \frac{1}{1 - MPC} \\ &= \frac{1}{1 - .75} \\ &= \frac{1}{.25} \\ &= 4 \end{aligned}$$

Equation 10-B indicates that if CS increases by $100 million, GDP could be expected to increase by 4 X $100 million, or $400 million.

G. Is the Multiplier Effect oversimplified?

The multiplier discussed above is an oversimplified multiplier because several factors decrease the force of the simple mathematical formula. Even though the MPC in the U.S. is around .9, which would indicate a multiplier of 10, the actual multiplier is much less. The oversimplified multiplier overstates the actual multiplier for the following principal reasons. First, some consumer and investment spending goes to imports, and this spending does not increase GDP and, therefore, does not have a multiplier effect. Second, increases in the price level mean that as time passes, less can be purchased in real terms, thus lowering the impact on real GDP and the multiplier.

Third, income and employment taxes reduce the amount of the Disposable Personal Income (DPI) that consumers receive. For example, assume that on average consumers are subject to income and employment taxes at a 30% rate. This means that for each dollar received as part of national income, which is point [9] on Diagram 4-A, the circular diagram of GDP, 30 cents goes to taxes, which is at point [10b], and this leaves only 70 cents of DPI, which is at point [13]. Thus, the MPC is only applicable to this after-tax DPI. The MPC of .9 times the .7 of national income that goes to DPI, gives an Effective MPC of only .56. When this Effective MPC of .56 is put into the multiplier formula, the multiplier is reduced to 2.2, which is computed in Equation 10-C.

Equation 10-C
Illustration of Multiplier Formula with MPC of 56%

$$Multiplier = \frac{1}{1 - R} = \frac{1}{1 - EffMPC}$$
$$= \frac{1}{1 - .56}$$
$$= \frac{1}{.44}$$
$$= 2.2$$

This 2.2 effective multiplier in Equation 10-C is close to the actual multiplier; Baumol and Blinder claim that the "actual multiplier for the U.S. economy is less than 2."[102]

H. How does the Multiplier work in reverse?

The multiplier works the other way around as well. The first order effect of a decrease in Disposable Personal Income (DPI) from, for example, a tax increase, will lead to a decrease in consumer spending by an amount equal to the decrease times the MPC, and through the multiplier effect, GDP will be reduced by a multiple of the decrease in consumption. For example, if DPI is reduced by $100 million due to a tax increase and the MPC is 75%, the first order effect is a reduction in GDP by $75 million, and after taking full account of the multiplier, GDP would fall by $400 million (4X$100M). The reverse multiplier is also oversimplified.

I. What is the Multiplier Effect for an Increase in Investment, Government or Net Export Spending?

Recall that the four components of GDP are Consumption spending, Investment spending, Government spending, and Net Export spending. Just as an increase in autonomous Consumption spending has a multiplier effect because the recipients of the spending have income that they will spend and so forth, an increase in autonomous Investment spending (for example, from a decrease in the cost of capital), or an increase in autonomous Government spending (for example, from a new highway spending program), or an autonomous increase in exports (for example, from a lowering of trade barriers), has the same type of multiplier effect. In each of these cases the recipients of the spending have income that they will spend and so forth. For example, if the marginal propensity to consume (MPC) is .75, and it is assumed that all first and subsequent order spending ends up in the hands of consumers, the oversimplified multiplier effect of this spending will be 4, just as it would be under the same circumstances with an autonomous increase in Consumption spending. Thus, for example, $100 billion of additional Investment spending would result in $400 billion of additional GDP by causing an outward shift of the AD curve. As with Consumption spending, the effective multiplier is much lower than the oversimplified multiplier.

[102] Baumol and Binder, *Economics 2003*, *infra* Bibliography, at 541.

Just as the Consumption multiplier can work in reverse if there is an autonomous decrease in Consumer spending, the Investment, Government, and Net Export multiplier can work in reverse if there is an autonomous decrease in spending for these items.

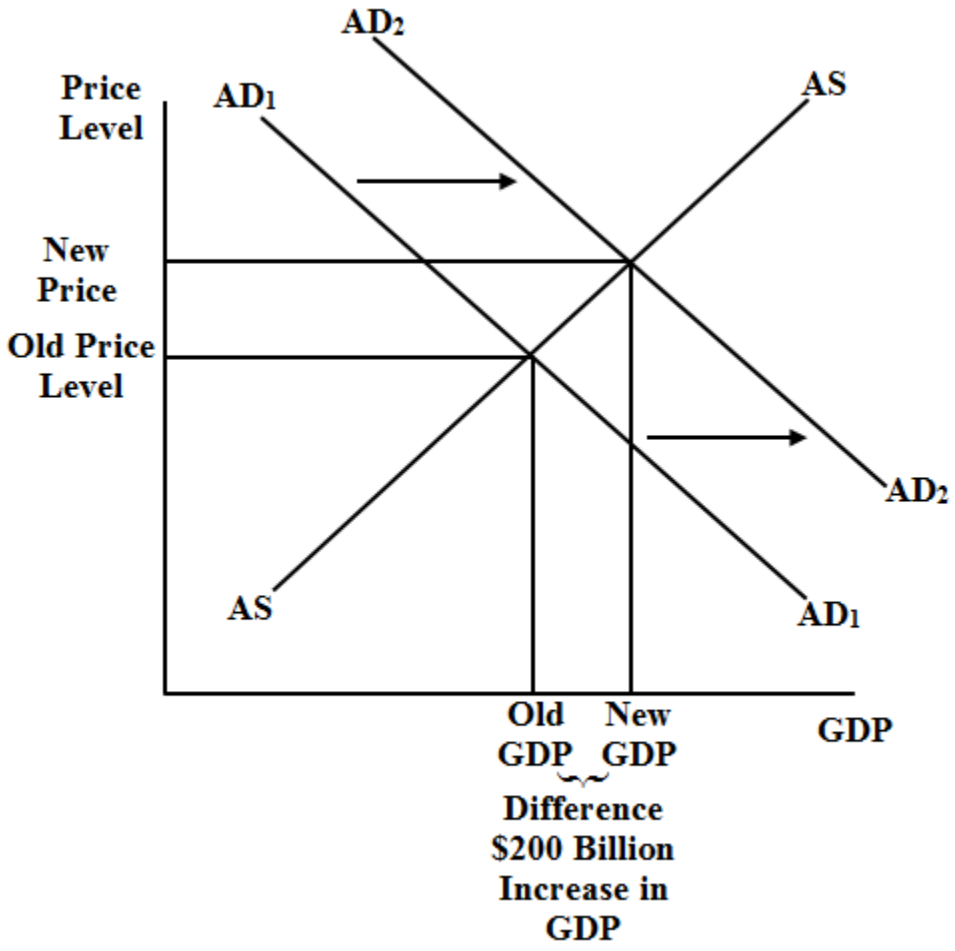
J. Is there a different Multiplier Effect for (1) a Tax decrease, and (2) an increase in Government Spending?

As indicated, a decrease in taxes will cause Consumption spending to change by the marginal propensity to consume (MPC) times the tax decrease. Thus, with an MPC of .75, a $100 billion reduction in taxes will initially increase Consumption spending by $75 billion. On the other hand, an increase in Government spending of $100 Billion will initially increase Government spending by the full $100 billion, although subsequent rounds of spending will be subject to the MPC. Therefore, an increase in Government spending will have a stronger initial impact on GDP than a decrease in taxes in the same amount. This issue is addressed further in Chapter 12, which addresses the financial crises.

K. How does the Multiplier affect the AD curve?

Autonomous shifts in Consumer, Investment, Government, or Net Export spending causes an autonomous shift in the AD curve to the point where the level of GDP reflects the effective multiplier. An autonomous increase in spending leads to a rightward shift in the AD curve, which will produce an increase in GDP by the amount of the effective multiplier, and depending on the slope of the AS curve, an increase in the price level. A decrease in autonomous spending will shift the AD curve to the left, which will lead to a reduced GDP by the amount of the effective reverse multiplier, and, depending on the slope of the AS curve, a lowering of the price level. Thus, the multiplier effect enhances the shift of the AD curve. Graph 10-A illustrates the impact on the AD curve from an increase in spending on any of the components of GDP: Consumption, Investment, Government, and Net Export spending.

Graph 10-A
Illustration of the Impact of the Multiplier Effect on the AD Curve:
Increase in Government Spending of $100 Billion, Effective Multiplier=2



Thus, $100 billion of additional government spending results in an increase in GDP of $200 billion.

L. How did the multiplier effect work in the context of the federal government's stimulus spending after the domestic financial crisis?

Chapter 12, which addresses the financial crisis, explores the theory and behavior of the multiplier effect that applied to the stimulus spending which was designed to address the domestic financial crisis.

M. What is the "paradox of thrift?"

The "paradox of thrift" is the adverse impact on growth an increase in savings can have. For example, Professor Krugman explains:

> [W]hen families and businesses are worried about the possibility of economic hard times, they prepare by cutting their spending. This reduction in spending depresses the economy as consumers spend less and businesses react by laying off workers.[103]

Thus, when the paradox of thrift occurs, the AD curve shifts to the left, thereby reducing GDP.

N. What is the relationship between infrastructure spending and the multiplier?

1. First, what is infrastructure?

Chapter 6 of the *2016 Economic Report of the President* is devoted to *The Economic Benefits of Investing in Infrastructure*. The *Report* defines "infrastructure" as follows:

> Infrastructure is defined as fixed capital assets that are consumed jointly in various production processes that facilitate and support economic activity, with "core" infrastructure referring to roads and other transportation facilities, power generation facilities and distribution networks, and water and sewer systems. The services provided by infrastructure are an indispensable input to the productive capacity of an economy, applied in tandem with other key inputs such as labor, human capital, land, and natural resources. Firms combine the use of infrastructure with these other inputs to produce goods and services, while households employ infrastructure services in both the production of output and the consumption of leisure activities. Deficiencies in infrastructure have the potential to adversely affect economic output, employment, and overall quality of life. At various points in time, the country has recognized the need to substantially upgrade its public infrastructure to foment economic development, and has subsequently invested in new and expanded infrastructure.[104]

2. Second, what are "public goods," "spillover effects," and "economies of scale;" and how do these concepts relate to the economic case for investing in infrastructure?

The *2016 Economic Report of the President* summarizes as follows the macroeconomic and microeconomic theories regarding investment in infrastructure:

> The crucial role of infrastructure is well recognized in economic theory. Macroeconomics emphasizes the importance of infrastructure capital in fostering economic growth, while microeconomics notes the private and social benefits that infrastructure services can provide for consumers, businesses, and entire communities. Economic theory also highlights how, to achieve optimal levels of investment, some forms of infrastructure may require government involvement in their provision and financing because they exhibit many characteristics of what economics defines as "public goods." Pure public goods have two unique characteristics: non-excludability in supply and non-rivalry in consumption. Non-excludability in supply means that consumers cannot be prohibited from enjoying the benefits of the public good; once the public good has been provided, the entity providing it cannot exclude members of the general public

[103] Krugman and Wells, *Macroeconomics Third, infra* Bibliography at 167.
[104] *2016 Economic Report of the President, infra* Bibliography, at 252.

from utilizing its services (usually for technological reasons), and thus cannot charge anyone for its use. Non-rivalry in consumption means that any one consumer's decision to use a good does not reduce the amount available for others. One cannot keep a ship from seeing a lighthouse once it is lit (non-excludable), and one ship seeing the lighthouse does not prevent others from seeing it (non-rival).

Since the services they provide are both non-excludable and non-rival (for example, lighthouses and street lights), many types of transportation infrastructure are classic examples of pure public goods. In other cases, infrastructure may be excludable (a bridge with limited access) or rival (overcrowded roads or bridges). Furthermore, highway and transit infrastructure often have spillovers beyond their immediate users, providing benefits to a wide set of consumers and firms—thus making it difficult to identify who, and how much, to charge for those services. Other types of infrastructure also have positive spillovers that are difficult to monetize, such as public health benefits arising from improved clean water systems. As a result, individual entities, both public and private, may overlook projects that are not profitable for them, but nevertheless provide a net benefit for society as a whole. Moreover, some types of infrastructure may be characterized by economies of scale; as such, only one firm [for example, the local electric utility company, see Chapter 21 dealing with regulation of such firms] can profitably provide the service while competition with other firms would be inefficient. As a result, the private sector may lack the proper incentives to invest in such capital or may not provide the amount that is socially desirable, leading to market failure. These issues suggest that the government has a role to play in efficiently supplying and maintaining transportation infrastructure, especially when it spans across geographic borders.[105]

3. Third, what are the "Demand Side" and "Supply Side" benefits of investing in infrastructure?

The *2016 Economic Report of the President* discusses several benefits of investing in infrastructure, including: (1) *Short-Term Demand Side Benefits*, and (2) *Long-Term Supply Side Benefits*. The *Report* introduces the benefits as follows:

This section discusses the role of infrastructure in the economy, highlighting the channels through which infrastructure investment can spur overall economic activity in both the short and long run. In the near term, this boost occurs through the demand-side of the economy. Because investing in infrastructure requires raw materials, manufactured goods, and extensive labor, it stimulates economic activity among firms in the supply chain and in households with members searching for employment. In the medium and long term, benefits materialize primarily on the supply-side. Higher-capacity and better-performing infrastructure supports faster, more reliable transport flows. As a result, households can increase their consumption through reduced travel costs and firms can exploit economies of scale in their production processes and distribution networks. Investing in new infrastructure also increases the flow of capital services that households and firms can utilize to produce valuable commodities and services. These longer-term supply improvements enable the economy to use private capital, labor, energy, and other inputs more productively, thereby augmenting the economy's future potential growth.[106]

[105] *Id*. at 252-253.
[106] *Id*. at 260-261.

4. Fourth, what is the "Multiplier Effect" with the "Short-Term Demand Side Benefit" of infrastructure spending?

In addressing *Short-Term Demand Side Benefits*, and the "multiplier effect," the *Report* says:

> Slack in the economy refers to the underutilization of resources like labor and capital. When slack exists in the economy, fiscal spending can help alleviate that slack by augmenting its contribution to public works projects. In the near term, public investment can reduce unemployment, provide workers with disposable income, and spur economic activity through the purchasing of inputs needed for implementing these projects[.] Government spending has a multiplier effect, which is defined as the dollar change in output caused by a $1 change in public spending. The multiplier measures the effects of government spending on overall economic activity rather than simply the impacts on businesses or households that directly receive the spending.[107]

Table 6-3 of the *Report*, *Input-Output Effects of Infrastructure Investment*, sets out estimated multipliers for various types of infrastructure spending. Table 10-A immediately below contains the information from Table 6-3 on "*Core Infrastructure Investment*:"

Table 10-A
Multiplier Effect of Various Types of Core Infrastructure Spending

Type of Core Infrastructure Spending	Direct Multiplier	Indirect Multiplier on Manufacturing Industries	Indirect Multiplier on Non-Manufacturing Industries	Total Multiplier
Highways and Streets	1.0	0.48	0.52	2.00
Electric Power Generation, Transmission and Distribution	1.0	0.18	0.61	1.80
Water Sewage and Other Systems	1.0	0.12	0.48	1.60

Source: Table 6-3, *Input-Output Effects of Infrastructure Investment, 2016 Economic Report of the President, infra* Bibliography at 263.

The *Report* discusses as follows the general "multiplier effect" of infrastructure spending:

> The short-run public investment multiplier for economic output has been well-documented. The International Monetary Fund (2014) finds, during times of low growth, a public spending multiplier of 1.5 in the same year as the investment and a slightly higher multiplier of 3 over the next four years. When a government has clearly identified infrastructure needs, an efficient investment process for identifying and directing funding toward those needs, and economic slack, then there is a strong case for increasing public investment in infrastructure. With nominal interest rates at or close to zero percent, the effects of increased government spending can be larger than they would be during normal circumstances when interest rates are higher. When the Central Bank's policy rate is set

[107] Id. at 262.

at zero—which it was from 2009 through 2015—Christiano, Eichenbaum, and Rebelo (2011) and Eggerston (2011) find stronger effects of increased public investment, producing short-run multipliers that range between 2 and 2.5. Because of its labor-intensive nature, spending on transportation is associated with even larger boosts to economic output than other government spending, with a short-run multiplier of about 2.7 (Leduc and Wilson 2014). In addition, to the degree that sustained losses in economic output lead discouraged workers to drop out of the labor force for prolonged periods and make them reluctant to return, alleviating these output losses in the short run can help to increase long-run output. When there is less slack in the economy, or when the Central Bank might tighten monetary policy in response to fiscal spending, fiscal multipliers are much lower (Auerbach and Gorodnichenko 2012).[108]

O. What has been the recent trend in infrastructure spending as a percentage of GDP?

The *2016 Economic Report of the President* summarizes the recent trend in spending on infrastructure as a percentage of GDP:

> Over the past half-century, public spending on water and transportation infrastructure as a share of gross domestic product (GDP) has trended slightly downward[.] Federal, State, and local government spending on water and transportation infrastructure accounted for 2.42 percent of GDP in 2014, 0.6 percentage point below its peak share of GDP in 1959 and somewhat above the smallest annual share of GDP at 2.35 percent in 1998. Most of the public spending can be attributed to State and local governments, which have accounted for, on average, about 72 percent of public spending on water and transportation infrastructure since 1956.[109]

P. What is the FAST Act, and what impact will it have on infrastructure spending?

The FAST Act became law in December 2015. The Department of Transportation describes this Act as follows:

> On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act." It is the first law enacted in over ten years that provides long-term funding certainty for surface transportation, meaning States and local governments can move forward with critical transportation projects, like new highways and transit lines, with the confidence that they will have a Federal partner over the long term. Secretary Foxx and his team at U.S. DOT have worked tirelessly to advocate for a long term bill, underscoring the needed sense of urgency to the American people. . . .
>
> Overall, the FAST Act largely maintains current program structures and funding shares between highways and transit. It is a down-payment for building a 21st century transportation system.

[108] *Id*. at 263-264.
[109] *Id*. at 254.

Q. What amount of infrastructure spending is called for?

An article in the Atlantic reports that the American Society of Civil Engineers has the following estimate of our infrastructure needs:

> [T]here is more than $3 trillion of infrastructural work to do before 2020 in order to repair, reinforce, and rebuild America's circuitry, including almost two trillion for roads and bridges and several hundred billion more for airports and waterways.[110]

R. What is Secretary Clinton's proposal for infrastructure spending and what would be the likely impact on the economy through the multiplier effect?

1. First, what is Secretary Clinton's infrastructure spending proposal?

Secretary Clinton's website has an elaborate discussion of her plans to increase spending on infrastructure, and this section briefly introduces (1) the rationale she gives for the proposal, and (2) the proposal. The next section addresses her projection of the economic impact of the proposal.

The Rationale. She says that "[s]trong infrastructure is critical to a strong economy," and she favorably points to the following infrastructure programs under two Republican and one Democrat president:

> President Lincoln's transcontinental railroad fueled the growth of a nation and a continent. President Eisenhower's interstate highway system drove the rise of the strongest middle class in history. President Roosevelt helped to build the Hoover Dam and power the rise of the American Southwest.

She lays out as follows her position that we are dramatically underinvesting in infrastructure:

> Today . . . we are dramatically underinvesting in our future. As a share of the economy, federal infrastructure investment is roughly half of what it was thirty-five years ago. Estimates of the size of our "infrastructure gap" register in the trillions of dollars. Workers can't get to work, congestion keeps parents stuck in traffic, floods threaten our cities, and airports leave travelers stranded for hours or even days at a time. Our small businesses, farmers, and manufacturers face highways, waterways, ports, and airports that make it harder for them to get their products to customers. Meanwhile, countries like China are racing ahead, building projects that will drive commerce and growth in the 21st century.

In elaborating on the rationale, she says:

> Investing in our infrastructure is about so much more than creating good-paying jobs: it's about maintaining our status as the world's economic superpower. That means making smart investments in ports, airports, roads, and waterways to address the key chokepoints for the movement of goods in our economy—connecting businesses and farmers to their suppliers and customers and enhancing U.S. competitiveness in the global economy. It means giving allAmerican households access to world-class broadband and creating connected "smart cities" with infrastructure that's part of tomorrow's Internet of Things. It means building airports and air traffic control systems

[110] Jim Bourg, *One Issue Trump and Clinton Agree On*, The Atlantic (Aug. 16, 2016), at http://www.theatlantic.com/business/archive/2016/08/the-one-issue-where-trump-and-clinton-agree/496064/.

that set the world standard for efficiency, reliability, and safety—saving time, money, and energy on every trip. It means a smart, resilient electrical grid that powers America's clean energy future. It means safe, smart roads and highways that are ready for the connected cars of tomorrow and the new energy sources that will power them. And it means changing the way we make our infrastructure investments—so that every dollar we spend goes further.

The Proposal. In outlining the general features of her proposal, she says that in her "first 100 days as president" she will:

> [W]ork with both parties to pass a comprehensive plan to create the next generation of good jobs. Now the heart of my plan will be the biggest investment in American infrastructure in decades, including establishing an infrastructure bank that will bring private sector dollars off the sidelines and put them to work there. . . .
>
> AS PRESIDENT, HILLARY WILL:
>
> - Repair and expand our roads and bridges. Hillary will make smart investments to improve our roads, reduce congestion, and slash the "pothole tax" that drivers silently pay each and every day.
> - Lower transportation costs and unlock economic opportunity by expanding public transit options. Hillary will encourage local governments to work with low-income communities to ensure unemployed and underemployed Americans are connected to good jobs.
> - Connect all Americans to the internet. Hillary will work to ensure that by 2020, 100 percent of households in America will have access to affordable broadband. She will also invest new resources in bringing free Wi-Fi to public buildings and public transportation.
> - Invest in building world-class American airports and modernize our national airspace system. These investments will reduce carbon emissions and save travelers and airlines an estimated $100 billion in avoided delays over the next 15 years.
> - Build energy infrastructure for the 21st century. We can unlock America's clean energy potential by modernizing infrastructure like dams, levees, and wastewater systems—saving billions of gallons in clean drinking water and generating clean energy.

Moving to the specifics, she sets out the following direct spending and infrastructure bank goals and also says how she would pay for these proposals:

> CLINTON IS ANNOUNCING A FIVE-YEAR $275 BILLION DOLLAR INFRASTRUCTURE PLAN.
>
> Clinton would increase federal infrastructure funding by $275 billion over a five-year period, fully paying for these investments through business tax reform. Of these funds, she would allocate $250 billion to direct public investment. She would allocate the other $25 billion to a national infrastructure bank, dedicated to advancing our competitive advantage for the 21st century economy. The bank would leverage its $25 billion in funds to support up to an additional $225 billion in direct loans, loan guarantees, and other forms of credit enhancement—meaning that Clinton's infrastructure plan would in total result in up to $500 billion in federally supported investment. The bank would also administer part of a renewed and expanded Build American Bonds program, and would

look for opportunities to work with partners in the private sector to get the best possible outcomes for the American people.
She points out that her plan will go beyond the FAST Act, discussed above.

2. Second, what does Senator Clinton say would be the likely impact on the economy through the multiplier effect of her infrastructure spending program?

Secretary Clinton provides the following predictions of the economic impact of her proposal, including, the impact on jobs and the impact on the growth of GDP from the multiplier effect of the spending:

> CLINTON'S PLAN WOULD CREATE GOOD-PAYING JOBS TODAY AND DRIVE UP WAGES IN THE FUTURE.
>
> According to the White House Council of Economic Advisers, every $1 billion in infrastructure investment creates 13,000 jobs. Moreover, the vast majority of the jobs created by infrastructure investment are good-paying, middle-class jobs — paying above the national median. And beyond creating good-paying jobs today, infrastructure investments promise to enhance the productivity of the American economy tomorrow — helping to boost the incomes of working Americans in the future. Every dollar of infrastructure investment leads to an estimated $1.60 increase in GDP the following year and twice that over the subsequent 20 years.

S. What is Mr. Trump's proposal for infrastructure spending and what would be the likely impact on the economy through the multiplier effect?

1. First, what is Mr. Trump's infrastructure spending proposal?

Mr. Trump's website does not seem to have a separate section addressing infrastructure; however, Mr. Trump has supported an increase in infrastructure spending. For example, the Wall Street Journal reports:

> Mr. Trump has made a vast infrastructure investment program a major talking point in his speeches. He has promised a "trillion-dollar rebuilding program" to patch up roads, airports, bridges, water systems and the power grid.
> In a recent appearance in North Dakota, Mr. Trump said he would lift restrictions on energy production and use part of the resulting tax revenue to finance his infrastructure plan. He has also talked about setting up a fund where private investors could help finance projects.
>
> The Republican has also vowed to complete projects faster and for less money. His positions on infrastructure spending are largely in line with the rest of the Republican Party, which frequently calls for new investments without raising the gas tax, which pays for much of the federal infrastructure spending.[111]

[111] David Harrison, *Infrastructure, Clinton v. Trump, Where They Stand on Economic Policy Issues*, Wall Street Journal, visited Sept 24, 2016, at http://graphics.wsj.com/elections/2016/donald-trump-hillary-clinton-on-the-economy/.

2. Second, what does Mr. Trump say would be the likely impact on the economy through the multiplier effect of his infrastructure spending program?

Mr. Trump's proposal is not nearly as well developed as Senator Clinton's proposal, and he does not appear to have any specific projection of the economic impact of this proposal.

T. Is there a case for criticizing both Senator Clinton's and Mr. Trump's infrastructure spending plans?

In describing the infrastructure spending plans of Senator Clinton and Mr. Trump, an article in Politico explains:

> Ask Congress watchers what major legislation is most likely to pass under the next administration, one answer always comes up: infrastructure investment. It is one of the few issues the two presidential candidates appear to agree on: Both Hillary Clinton and Donald Trump argue that the country's dilapidated roads, bridges and airports need rebuilding. Both candidates also say those programs will create many new jobs, putting construction workers back to work.[112]

However, the article asserts for the following reasons that because of the current state of the construction labor market it could be imprudent to undertake such a large increase in infrastructure spending:

> Unemployment is low and wages have even started rising. Instead of creating thousands of jobs, experts now warn that a new infrastructure investment could face the exact opposite challenge: a labor shortage.
>
> "Clearly, there aren't as many players on the bench as there were," said Ken Simonson, the chief economist for the Associated General Contractors of America. "To the extent that more were needed, the industry would be turning to people with less experience or perhaps having to raise compensation." . . .
>
> [T]he construction industry has slowly recovered as the housing sector has picked up, undermining the case for infrastructure investment as fiscal stimulus. Unemployment in the construction industry in June was down to 4.6 percent, the lowest it's been since 2000. Compensation has started rising as well, hitting 2.5 percent in the second quarter of this year—not a rapid improvement but its highest level since 2008. Job openings in the construction industry are also nearing their pre-recession peak. Headlines now repeatedly warn of a shortage in construction workers. [113]

The article goes on to point out that many of the proponents of infrastructure spending, including Lawrence Summers, the former Secretary of the Treasury in President Clinton's Administration and the Chairman of the National Economic Council in President Obama's Administration, argue that the focus should be on the long-term benefits of such spending and not the short-term stimulus benefit. The article explains:

> Proponents of a big infrastructure plan brush off these [tight employment] numbers. The real value in infrastructure investment is not the short-term jobs, they say, but the long-term economic benefits from reduced commute times, safe drinking water

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[112] Danny Vinik, *The problem with Clinton and Trump's infrastructure plans*, Politico (Aug. 8, 2016), at http://www.politico.com/agenda/story/2016/08/clinton-trump-infrastructure-construction-workers-000183.
[113] *Id*.

and improved productivity. Plus, if the government does face a labor shortage, wages will rise and workers in other industries will switch to construction.[114]

> [E]xperts agree that the long-term effects of a major infrastructure bill are positive. Interest rates remain extraordinarily low, although they may rise in the coming months as the Federal Reserve hikes rates. Commodities like concrete, gas and steel are inexpensive, although those prices may tick back up as well. Private investment in construction projects is strong.[115]

The article also points out that one of the biggest concerns with any large infrastructure program is that it may be delayed because of a labor shortage. However, on the other hand, the article points out that "many economists [are] nervous that a recession could hit during the next president's first term[,] and [if] that occurs, a large infrastructure program could be ramping up just as the construction industry hits a downturn and more workers find themselves jobless."[116]

U. What is my take on the candidates' proposals on infrastructure spending?

Both Senator Clinton and Mr. Trump support more spending on infrastructure. However, Senator Clinton's proposals are more specific. In my judgment, there is a critical need for more spending on infrastructure. Further, given the continued slack in the economy, a significant increase in infrastructure spending is unlikely to result in harmful inflation. However, even if the slack in the economy is eliminated, there is still a strong case for spending on infrastructure, for do we as a country let our roads, bridges, water treatment plants, and other critical infrastructure systems atrophy for fear that improving them may increase inflation in the labor market? I think not! As Professor Krugman says: "To provide good infrastructure an economy must not only be able to afford it, but it must also have the political discipline to maintain it."[117]

V. What is the politics behind Senator Clinton's and Mr. Trump's infrastructure spending proposals and are we likely to get an increase in such spending?

An article in the Atlantic makes the following observation about the politics of the infrastructure spending issue:

> Trump and Clinton's rare political kumbaya is almost certain to be wasted, not because of economics, but because of politics. The Republican-led Congress has made abundantly clear their preferential direction on federal infrastructure spending: down. The caucus has refused to raise revenue for infrastructure spending, so that as a share of GDP, money for bridges, roads, ports, and so on has fallen to a 30 year low on their watch. The Obama administration has repeatedly proposed infrastructure mini-stimuli, and the GOP House has repeatedly stiff-armed them.
>
> The party of Eisenhower and Reagan ought to know better. The former general oversaw the establishment of one the most expensive national infrastructure projects ever, the interstate highway system, while the latter raised taxes to pay for bridges and highways, seeing America's transportation strength as a matter of national revitalization.

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[114] *Id*.
[115] *Id*.
[116] *Id*.
[117] Krugman and Wells, *Macroeconomics Fourth, infra* Bibliography at 260

> Things have gotten quite bad in Washington when Trump's policy chops are making a group of professional politicians look ridiculous.[118]

Notwithstanding this pessimistic evaluation of the current political scene, in 2015, Congress did pass the FAST Act, which is discussed above, and my sense is that since both Secretary Clinton and Mr. Trump support an increase in infrastructure spending, it is likely that Congress will in fact increase such spending.

[118] Jim Bourg, *One Issue Trump and Clinton Agree On*, The Atlantic (Aug. 16, 2016), at http://www.theatlantic.com/business/archive/2016/08/the-one-issue-where-trump-and-clinton-agree/496064/.

CHAPTER 11, HOW DO INTERNATIONAL TRADE AND INVESTMENT AFFECT ECONOMIC GROWTH, AND WHAT WOULD BE THE IMPACT OF THE TRADE PROPOSALS OF SECRETARY CLINTON AND MR. TRUMP?

A. What is in this Chapter?

This chapter analyzes four broad issues: (1) the benefits of international trade, including U.S. activities in promoting international trade; (2) exchange rates and their impact on international trade and investment; (3) the balance of payments, which is the method of accounting for international trade and investment; and (4) the determinants of the net exports component of GDP and the role of this component in promoting economic growth.

The chapter also takes a look at (1) the North American Free Trade Agreement (NAFTA), which came into effect in the 1990's during the administration of President Bill Clinton, and (2) the Trans-Pacific Partnership (TPP), which is currently (October 2016) being considered by the Senate. Further, this chapter examines the positions of Secretary Clinton and Mr. Trump on these and other trade deals.

Before digging into these topics, we first take a look at the concept of globalization and the domestic and international organizations that deal with international trade issues.

B. Is globalization a new concept?

Globalization posits that the world is interconnected and is becoming increasingly so. However, this is not a new concept. Indeed, prior to World War I, because of low trade and other barriers, there were "large cross-border flows of goods, capital and people."[119] As discussed below, several international and domestic organizations focus on promoting cross-border flows of goods and capital.

C. What is the World Trade Organization?

The U.S. and other nations are members of the World Trade Organization (WTO), the purpose of which is to promote international trade through the lowering of trade barriers. The WTO provides the following description of its activities:

> There are a number of ways of looking at the World Trade Organization. It is an organization for trade opening. It is a forum for governments to negotiate trade agreements. It is a place for them to settle trade disputes. It operates a system of trade rules. Essentially, the WTO is a place where member governments try to sort out the trade problems they face with each other.
>
> The WTO was born out of negotiations, and everything the WTO does is the result of negotiations. The bulk of the WTO's current work comes from the 1986–94 negotiations called the Uruguay Round and earlier negotiations under the General Agreement on Tariffs and Trade (GATT). The WTO is currently the host to new negotiations, under the 'Doha Development Agenda' launched in 2001.
>
> Where countries have faced trade barriers and wanted them lowered, the negotiations have helped to open markets for trade. But the WTO is not just about opening markets, and in some circumstances its rules support maintaining trade barriers — for example, to protect consumers or prevent the spread of disease.

[119] Baumol and Binder, *Economics 2009*, *infra* Bibliography, at 724.

At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations. These documents provide the legal ground rules for international commerce. They are essentially contracts, binding governments to keep their trade policies within agreed limits. Although negotiated and signed by governments, the goal is to help producers of goods and services, exporters, and importers conduct their business, while allowing governments to meet social and environmental objectives.

The system's overriding purpose is to help trade flow as freely as possible — so long as there are no undesirable side effects — because this is important for economic development and well-being. That partly means removing obstacles. It also means ensuring that individuals, companies and governments know what the trade rules are around the world, and giving them the confidence that there will be no sudden changes of policy. In other words, the rules have to be 'transparent' and predictable.

Trade relations often involve conflicting interests. Agreements, including those painstakingly negotiated in the WTO system, often need interpreting. The most harmonious way to settle these differences is through some neutral procedure based on an agreed legal foundation. That is the purpose behind the dispute settlement process written into the WTO agreements.[120]

D. What is the International Monetary Fund?

The Web site of the International Monetary Fund (IMF) gives the following description of its purposes and organizational structure:

The IMF works to foster global growth and economic stability. It provides policy advice and financing to member [countries] in economic difficulties and also works with developing nations to help them achieve macroeconomic stability and reduce poverty.

The IMF promotes international monetary cooperation and exchange rate stability, facilitates the balanced growth of international trade, and provides resources to help members in balance of payments difficulties or to assist with poverty reduction.[121]

As discussed later in this chapter, the IMF provided monetary assistance to Greece and other European countries that faced a financial crisis in 2011 and 2012.

E. What is the World Bank?

The World Bank is an organization that is based in Washington D.C., and its website explains that it has two goals for the world to achieve by 2030:

- End extreme poverty by decreasing the percentage of people living on less than $1.90 a day to no more than 3%
- Promote shared prosperity by fostering the income growth of the bottom 40% for every country.

The World Bank provides financial and technical assistance to developing countries around the world. It describes its "Financial Products and Services" as follows:

We provide low-interest loans, zero to low-interest credits, and grants to developing countries. These support a wide array of investments in such areas as education, health, public administration, infrastructure, financial and private sector

[120] WTO, Who We Are, at https://www.wto.org/english/thewto_e/whatis_e/who_we_are_e.htm (Oct. 17, 2016).
[121] International Monetary Fund, *Overview*, at http://www.imf.org/external/about/overview.htm (April 23, 2012).

development, agriculture, and environmental and natural resource management. Some of our projects are cofinanced with governments, other multilateral institutions, commercial banks, export credit agencies, and private sector investors.

We also provide or facilitate financing through trust fund partnerships with bilateral and multilateral donors. Many partners have asked the Bank to help manage initiatives that address needs across a wide range of sectors and developing regions.

Thus, the World Bank is focused on economic development in the developing world, and it is not addressed further in this book.

F. What is the Office of the U.S Trade Representative (USTR)?

The Office of the U.S. Trade Representative (USTR) is responsible for developing and coordinating U.S. international trade, commodity, and direct investment policy, and overseeing negotiations relating to these matters with other countries.[122] The head of the USTR is a member of the President's Cabinet. The Mission Statement of the USTR explains:

> American trade policy works toward opening markets throughout the world to create new opportunities and higher living standards for families, farmers, manufacturers, workers, consumers, and businesses. The United States is party to numerous trade agreements with other countries, and is participating in negotiations for new trade agreements with a number of countries and regions of the world.
>
> The Office of the U.S. Trade Representative (USTR) is responsible for developing and coordinating U.S. international trade, commodity, and direct investment policy, and overseeing negotiations with other countries. . . . Through an interagency structure, USTR coordinates trade policy, resolves disagreements, and frames issues for presidential decision. . . .
>
> USTR provides trade policy leadership and negotiating expertise in its major areas of responsibility, including:
>
> - Bilateral, regional and multilateral trade and investment issues.
> - Expansion of market access for American goods and services.
> - International commodity agreements.
> - Negotiations affecting U.S. import policies . . . .
> - Trade, commodity, and direct investment matters managed by international institutions such as the Organization for Economic Cooperation and Development (OECD) and the United Nations Conference on Trade and Development (UNCTAD).
> - Trade-related intellectual property protection issues.
> - World Trade Organization (WTO) issues.[123]

The U.S. Congress established several private sector advisory committees to advise the USTR on the impact U.S. trade policy has on U.S. commercial and economic interests. Among other things, the committees prepare reports on proposed trade agreements.

G. What is the role of the U.S. Department of Commerce in international trade?

Issues involving the imposition by the U.S. of tariffs, which are taxes on imports, and other import issues are the responsibility of the Import Administration of the International Trade

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[122] Mission of the USTR, at http://www.ustr.gov/about-us/mission, (April 18, 2012).
[123] *Id*.

Administration (ITA) of the Department of Commerce. The ITA's website contains the following description of its purpose and the functions of the Import Administration:

> Unfair foreign pricing and government subsidies distort the free flow of goods and adversely affect American business in the global marketplace. When that happens, the International Trade Administration can take enforcement actions. ITA's Import Administration is the agency's lead unit on enforcing trade laws and agreements to prevent unfairly traded imports and to safeguard jobs and the competitive strength of American industry. [The ITA works] to resolve disputes [and implement] measures when violations are found . . . The primary role of Import Administration is to enforce effectively the U.S. unfair trade laws (i.e., the anti-dumping and countervailing duty laws) and to develop and implement other policies and programs aimed at countering foreign unfair trade practices.[124]

H. What is the U.S. International Trade Commission?

The website of the U.S. International Trade Commission describes its role as follows:

> The United States International Trade Commission (USITC) is an independent, quasijudicial Federal agency with broad investigative responsibilities on matters of trade. The agency investigates the effects of dumped and subsidized imports on domestic industries and conducts global safeguard investigations. The Commission also adjudicates cases involving imports that allegedly infringe intellectual property rights. Through such proceedings, the agency facilitates a rules-based international trading system. The Commission also serves as a Federal resource where trade data and other trade policy-related information are gathered and analyzed. The information and analysis are provided to the President, the Office of the United States Trade Representative (USTR), and Congress to facilitate the development of sound and informed U.S. trade policy. The Commission makes most of its information and analysis available to the public to promote understanding of international trade issues.
>
> The mission of the Commission is to (1) administer U.S. trade remedy laws within its mandate in a fair and objective manner; (2) provide the President, USTR, and Congress with independent analysis, information, and support on matters of tariffs, international trade, and U.S. competitiveness; and (3) maintain the Harmonized Tariff Schedule of the United States (HTS).

I. What is the basic economic case in support of international trade?

We should favor international trade for the same reason we favor trade generally: because both parties to the trade benefit. This is known as the principle of mutual gains from trade, which means that since the parties to a voluntary trade end up with the desired product, there is a redistribution of products that results in both parties ending up with a more desirable product than they held before the trade. Thus, trade facilitates the movement of products to their highest and best use and, therefore, promotes economic efficiency.

Also, because no country has all of the natural assets its people need in just the right proportions, it is economically efficient for countries to trade with each other to remedy such overages or shortages. For example, assume that good X can be produced more efficiently in France than in the U.S. and that France can produce more of good X than the French people can

[124] International Trade Administration, Import Administration, at http://trade.gov/ia/ (April 22, 2012).

consume. Also assume that good Y can be produced more efficiently in the U.S. than in France and that the U.S. can produce more of good Y than the U.S. people can consume. In this case, it obviously makes sense for France to sell good X in the U.S. and for the U.S. to sell good Y in France.

While this "win-win" situation presents an easy case in support of international trade, support also comes from the less obvious law of comparative advantage, which is discussed in the next section.

J. What is the law of comparative advantage?

The law of comparative advantage provides a clear theoretical justification for the principle that both countries to international trade generally benefit, which means that there are mutual gains from international trade. It is possible that one country, say the U.S., will have an absolute advantage over another country, say Brazil, in producing two different products, such as manufacturing telephones and manufacturing tables. This means that the U.S. can manufacture both telephones and tables more efficiently, that is, with less labor, capital, and technical resources, than Brazil.

Although the U.S. has this absolute advantage in both telephones and tables, assume that Brazil is more efficient in manufacturing one of these products than the other. For example, assume that Brazil is more efficient in manufacturing tables than telephones, and therefore, the U.S. has a greater efficiency lead over Brazil in manufacturing telephones than it has in manufacturing tables. In this situation, the U.S. has what is known as a comparative advantage over Brazil in the production of telephones relative to tables. Assume further that the output of telephones and tables by the U.S. and Brazil in a one-year period from the same amount of labor, capital, and technical know-how (that is, from $1 billion of these inputs) would be as set out in Table 11-A.

Table 11-A
A Year's Production of Telephones and Tables by U.S. and Brazil from $1 billion of Labor, Capital, and Technical Inputs

Product	**U.S.**	**Brazil**
Telephones	50M	10M
Tables	50M	25M

Thus, Table 11-A shows that in the U.S. $1 billion of labor, capital and technical inputs can produce in one year either 50 million telephones or 50 million tables. On the other hand, in Brazil, $1 billion (in equivalent Brazilian currency) of these same inputs can produce in one year either 10 million telephones or 25 million tables. Thus, the U.S. has an absolute advantage over Brazil in the production of both telephones and tables. However, the U.S. has a greater comparative advantage in producing telephones, that is, Brazil can produce tables more efficiently than it can produce telephones relative to the U.S. In other words, the U.S. is five times more efficient than Brazil in producing telephones, but only twice as efficient as Brazil in producing tables.

Now assume further that the U.S. and Brazil are trying to decide how to allocate the $1 billion of these resources and want to do so to maximize the joint production of telephones and tables. A little arithmetic will show that joint production is maximized if the U.S. concentrates on manufacturing telephones and Brazil concentrates on manufacturing tables. This reasoning leads to the law of comparative advantage, which holds that when every country does what it can do best relative to other countries, all countries will benefit because more of every commodity can be produced with a given amount of inputs, and thus, worldwide economic efficiency is attained.

K. What does the U.S. Trade Representative (USTR) say are the benefits of trade?

The USTR points out that the U.S. is both the world's largest economy and the world's largest exporter and importer of goods and services. The USTR says:

> Trade is critical to America's prosperity - fueling economic growth, supporting good jobs at home, raising living standards and helping Americans provide for their families with affordable goods and services.
>
> The U.S. is the world's largest trading nation, with exports of goods and services of nearly $2.3 trillion in 2013.
>
> • U.S. goods and services exports supported an estimated 11.3 million jobs in 2013.
>
> • Every billion dollars of goods and services exports supported nearly an estimated 5,600 jobs in 2013. Every billion dollars of goods exports supported more than 5,400 jobs in 2013. Every billion dollars of services exports supported more than 5,900 jobs in 2013.
>
> • An estimated 25 percent of all manufacturing jobs are supported by exports.
>
> • U.S. agricultural exports supported an estimated 929 thousand jobs on and off the farm in 2012 (latest data available).
>
> • Every billion dollars of U.S. agricultural exports in 2012 (latest data available) required 6,577 American jobs throughout the economy.

• US jobs supported by goods exports pay 13-18 percent more than the US national average.
• Exports of goods and services full year share of U.S. GDP at 13.45 percent in 2013.

Trade expansion benefits families and businesses by:

• Supporting more productive, higher paying jobs in our export sectors
• Expanding the variety of products for purchase by consumers and business
• Encouraging investment and more rapid economic growth

Trade keeps our economy open, dynamic, and competitive, and helps ensure that America continues to be the best place in the world to do business.[125]

L. How could the U.S. reduce imports through the use of tariffs and quotas?

Countries have a variety of ways of interfering with international trade. First, a country can impose a tariff, which is a tax on imports. Second, a country can impose a quota, which is a number limit on imports. The Department of Commerce provides the following guidance on tariffs:

> A tariff or duty (the words are used interchangeably) is a tax levied by governments on the value including freight and insurance of imported products. Different tariffs are applied on different products by different countries. The average duty worldwide is about 5 percent. National sales and local taxes, and in some instances customs fees, will often be charged in addition to the tariff. The tariff, along with the other assessments, is collected at the time of customs clearance in the foreign port.[126]

The U.S. has a combined tariff and quota system (*i.e.*, a tariff-rate quota) governing the importation into the U.S. of sugar and sugar products. The U.S. Department of Agriculture (USDA) describes this system as follows:

> *Sugar Import Program*. Imports of sugar into the United States are governed by tariff-rate quotas (TRQs), which allow a certain quantity of sugar to enter the country under a low tariff. TRQs apply to imports of raw cane sugar, refined sugar, sugar syrups, specialty sugars and sugar-containing products. Import restrictions are intended to meet U.S. commitments under the North American Free Trade Agreement (NAFTA) [see the discussion *infra* of NAFTA] and the Uruguay Round Agreement on Agriculture (which resulted in the creation of the World Trade Organization).
>
> USDA establishes the annual quota volumes for each federal fiscal year (beginning October 1) and the U.S. Trade Representative allocates the TRQs among countries. Sugar and related products paying a higher, over-quota tariff may enter the country in unlimited quantities.[127]

The U.S. imposes both tariffs and quotas on many products. For example, in March 2002, President Bush imposed a tariff on the import of certain steel products. As explained by the U.S. Trade Representative's Office (USTR), the tariffs (that is, "safeguard measures") were imposed after a finding by the International Trade Commission (ITC) that "increased imports of

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[125] Office of U.S. Trade Representative, at https://ustr.gov/about-us/benefits-trade (Oct. 17, 2016).
[126] Department of Commerce, *Tarriffs and Import Fees*, at http://export.gov/logistics/eg_main_018130.asp (April 23, 2012).
[127] U.S. Department of Agriculture, *U.S. Sugar Import Program*, at http://www.fas.usda.gov/programs/sugar-import-program (Oct 19, 2016).

eight [steel] products caused serious injury to the domestic [steel] industry producing a like or directly competitive product."[128] The USTR went on to explain: "A safeguard measure may be applied 'to prevent or remedy serious injury and to facilitate adjustment,'" and that the U.S. "may choose any form for the measure – for example, a tariff, tariff-rate quota, or quantitative restriction."[129]

Significant political implications can impact the decisions to impose tariffs and quotas. For instance, President Bush decided to repeal most of the tariffs on imported steel, after the European Union threatened to impose sanctions on orange juice and other citrus products from Florida, a key political battleground state.[130] However, by doing so President Bush risked political backlash in other key battleground states, such as Pennsylvania, Ohio, and West Virginia, which are heavy steel-producing states.[131]

M. What are anti-dumping, anti-subsidies, and countervailing duties (CVDs)?

In the context of international trade, dumping involves a sale of a product by a company organized in one country (Country S) to customers in another country (Country P), where (1) the price is lower than a price that would otherwise prevail in the marketplace, or (2) the quantity is more than would otherwise prevail in the marketplace. For example, the price might be below the seller's cost of producing the product, which would be a sign of predatory pricing. Although such sales may temporarily benefit the customers in Country P, the sales also harm the competitors of the seller located in Country P and could put them out of business. This would then allow the selling company to engage in monopolistic pricing.

The World Trade Organization (WTO) provides the following basic definition of dumping and describes the permissible anti-dumping steps a country, like Country P, may take:

> If a company exports a product at a price lower than the price it normally charges on its own home market, it is said to be "dumping" the product. Is this unfair competition? The WTO agreement does not pass judgment. Its focus is on how governments can or cannot react to dumping — it disciplines anti-dumping actions, and it is often called the "Anti-dumping Agreement".[132]

A governmental subsidy can have a similar economic effect to dumping. For example, a subsidy provided by Country S to its companies that are manufacturing a product can permit the companies to sell the product in Country P at a price that is lower than the price that would prevail in the marketplace in the absence of the subsidy.

Countervailing duties (CVDs) are measures that Country P can take to counteract dumping and subsidies. The WTO provides the following basic guidance on subsidies and CVDs:

> The WTO Agreement on Subsidies and Countervailing Measures disciplines the use of subsidies, and it regulates the actions countries can take to counter the effects of subsidies. Under the agreement, a country can use the WTO's dispute-settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Or

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[128] U.S. Trade Representative's Office, *United States – Definitive Safeguard Measures On Imports of Certain Steel Products, Executive Summary* (October 10, 2002), at www.ustr.gov.
[129] *Id*.
[130] Mike Allen, *President to Drop Tariffs on Steel*, Washington Post, at www.washingtonpost.com, (December 1, 2002).
[131] *Id*.
[132] World Trade Organization, *Anti-dumping*, at http://www.wto.org/english/tratop_e/adp_e/adp_e.htm (April 23, 2012).

the country can launch its own investigation and ultimately charge extra duty ("countervailing duty") on subsidized imports that are found to be hurting domestic producers.[133]

N. What CVD action was taken by the Department of Commerce in March 2012 against the importation of Chinese solar panels?

On March 20, 2012 the Department of Commerce (DOC) announced its preliminary decision in the countervailing duty (CVD) investigation of imports of solar panels from China.[134] The DOC explained that "countervailable subsidies are financial assistance from foreign governments that benefit the production of goods from foreign companies . . . ." These subsidies are "limited to specific enterprises or industries, or are contingent either upon export performance or upon the use of domestic goods over imported goods." The DOC "preliminarily determined that Chinese producers/exporters have received countervailable subsidies ranging from 2.90 to 4.73 percent." The DOC further explained as follows its decision to impose a CVD:

> As a result of this preliminary determination, Commerce will instruct U.S. Customs and Border Protection to collect a cash deposit or bond based on these preliminary rates, applicable to all entries of Chinese solar cells made up to 90 days prior to the preliminary determination.

The DOC explained that its decision was the result of a petition filed by SolarWorld Industries America Inc. of Oregon.

O. Does the U.S. restrict foreign ownership of U.S. businesses?

In general, the U.S. does not impose restrictions on foreign ownership of U.S. businesses. However, there are certain restrictions on foreign ownership of U.S. airlines and U.S. communications that are regulated by the Federal Communications Commission. Also, under the rules of the Committee on Foreign Investment in the U.S. (CFIUS), a U.S. Federal law, restrictions can be imposed on the foreign ownership of a U.S. business that is important for national security.

The CFIUS law was strengthened as a result of efforts by (1) the China National Offshore Oil Corporation (CNOOC) to acquire Unocal, a U.S. oil company, and (2) Dubai Ports World to acquire a British corporation that operated U.S. ports. Both of these transactions were abandoned.

P. How could the U.S. support exports?

Countries can adopt policies to encourage exports. For example, the U.S. adopted the Extraterritorial Income Exclusion (ETI) provisions of the federal tax code, which provided tax benefits for certain export activity. The World Trade Organization (WTO) found that the ETI was a violation of the WTO rules and authorized certain countries to impose compensating tariffs on U.S. imports. As a result, Congress repealed the ETI for transactions entered into after December 31, 2004.

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[133] World Trade Organization, *Subsidies and countervailing measures*, at http://www.wto.org/english/tratop_e/scm_e/scm_e.htm (April 23, 2012).

[134] Department of Commerce, ITA, *FACT SHEET, Commerce Preliminarily Finds Countervailable Subsidization of Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the People's Republic of China* (March 20, 2012).

In 1973, a *President's Export Council* was established, which is the "principal national advisory committee on international trade."[135] The purpose of the Council is to advise the President on government policies and programs that will "promote trade performance" and "expand exports." The Council has 28 private sector members appointed by the President.

Q. What are exchange rates?

An exchange rate (ER) is the price in terms of one currency, for example, the dollar, at which another currency (for example, the euro, which is used by many European countries including France and Germany) can be bought. For most currencies, by convention, the ER is quoted in terms of the number of foreign currency per U.S. dollar; however, for both the euro and the U.K. pound, by convention, the ER is stated as the number of U.S. dollars per unit of foreign currency, that is, per euro or pound.

For example, on October 19, 2016, (1) the euro was at approximately 1.2 U.S. dollars (that is, it would take $1.1 to buy one euro), and (2) the U.K. pound was at approximately 1.2 U.S. dollars (that is, it would take approximately $1.2 to buy one U.K. pound). On the other hand, the dollar was at approximately .9 Swiss francs (that is, it would take approximately .9 Swiss francs to purchase one U.S. dollar).

Interestingly, when the previous edition of this book was published in 2012, it would have taken (1) $1.3 to buy one euro, (2) $1.6 to buy one U.K. pound, and (3) .9 Swiss francs to purchase one U.S. dollar. Thus, as discussed below, between 2012 and 2016, the dollar has appreciated against the euro and the U.K. pound, and remained constant against the Swiss franc.

The Wall Street Journal publishes daily, under the heading "Key Currency Cross Rates," the ERs of various major currencies against each other. Also the Wall Street Journal publishes daily under the heading "Exchange Rates" the ERs between the dollar and many of the world's currencies in terms of both the amount of foreign currency per dollar and the amount of dollars per unit of foreign currency.

R. How are exchange rates determined?

Many currencies are allowed to trade freely in the foreign exchange market, that is, are allowed to float. Other currencies are traded at an official exchange rate. Between these two extremes, some currencies, such as the Chinese renminbi, which is also known as the yuan, trade within a band relative to a currency or basket of currencies determined by the government. The renminbi, for example, trades within a band relative to the dollar as determined by the Chinese government.

S. How is the exchange rate for the Chinese yuan determined?

The Wall Street Journal gives the following explanation of the April 2012 modification in the yuan's trading range:

> The People's Bank of China said [that] it would widen the yuan's daily trading band against the dollar to 1% above and below the central parity, a daily reference exchange rate, from 0.5% previously. It last expanded the dollar/yuan trading band from 0.3% in May 2007.[136]

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[135] The White House, *About the President's Export Council*, at http://trade.gov/pec/about.asp (April 10, 2012).
[136] Esther Fung, *Yuan Rises Against Dollar*, at http://blogs.wsj.com/marketbeat/2012/04/17/yuan-rises-against-dollar/tab/print/ (April 17, 2012).

The *2016 Economic Report of the President* discusses as follows, recent developments with China's exchange rate policy:

> China's currency policies also underwent noteworthy changes in 2015. China maintains a narrow trading band with respect to the U.S dollar. Market pressure forced the renminbi (RMB) toward the weak edge of its trading band during much of 2014 and the first half of 2015 (see Figure 3-10). On August 11, the People's Bank of China decided to adopt a new scheme in determining its reference rate, basing it on the RMB's previous closing and allowing a plus or minus a 2 percent trading band, accompanied by a depreciation of the RMB. This shift came amidst, and may have contributed to, global market volatility in August. Between August 10 and the end of 2015, the cumulative depreciation in the spot rate was 4.6 percent against the dollar. Since August, the authorities have sold foreign exchange to support the RMB, as the market was surprised by the sudden depreciation, exchange rate expectations reset, and private capital outflows continued. The end of 2015 and start of 2016 has also seen renewed discussion of the value of the RMB versus a basket of currencies—not just the U.S. dollar—as well as greater volatility in the exchange rate. Clear communication by China of its policies and actions to the market as it makes an orderly transition to a market-determined exchange rate will help guide market expectations.[137]

And, in March 2016, CNBC described as follows action by China's central bank in guiding the yuan higher against the dollar:

> The People's Bank of China (PBOC) set the mid-point of the dollar-yuan trading band at 6.4905, its strongest level so far this year. The pace of the increase versus the previous day's fix was the fastest since November last year.
>
> Friday's fix compares with the onshore spot trade close of 6.5075 Thursday. China's central bank lets the yuan spot rate rise or fall a maximum of 2 percent against the dollar relative to the official fixing rate.[138]

As this chapter is being written on October 17, 2016 the dollar-yuan exchange rate is 6.7 yuan per dollar, which means that between March 2016 and October 2016, the yuan depreciated against the dollar, which appreciated against the yuan.

T. How is the exchange rate of a floating currency determined?

The foreign exchange market is made up of a large number of banks, other financial institutions, and foreign currency dealers and brokers that trade currencies electronically. ERs for currencies that float, such as the U.S. dollar, are determined in this free market by the law of supply of a currency and the demand for a currency. This is illustrated in Graph 11-A.

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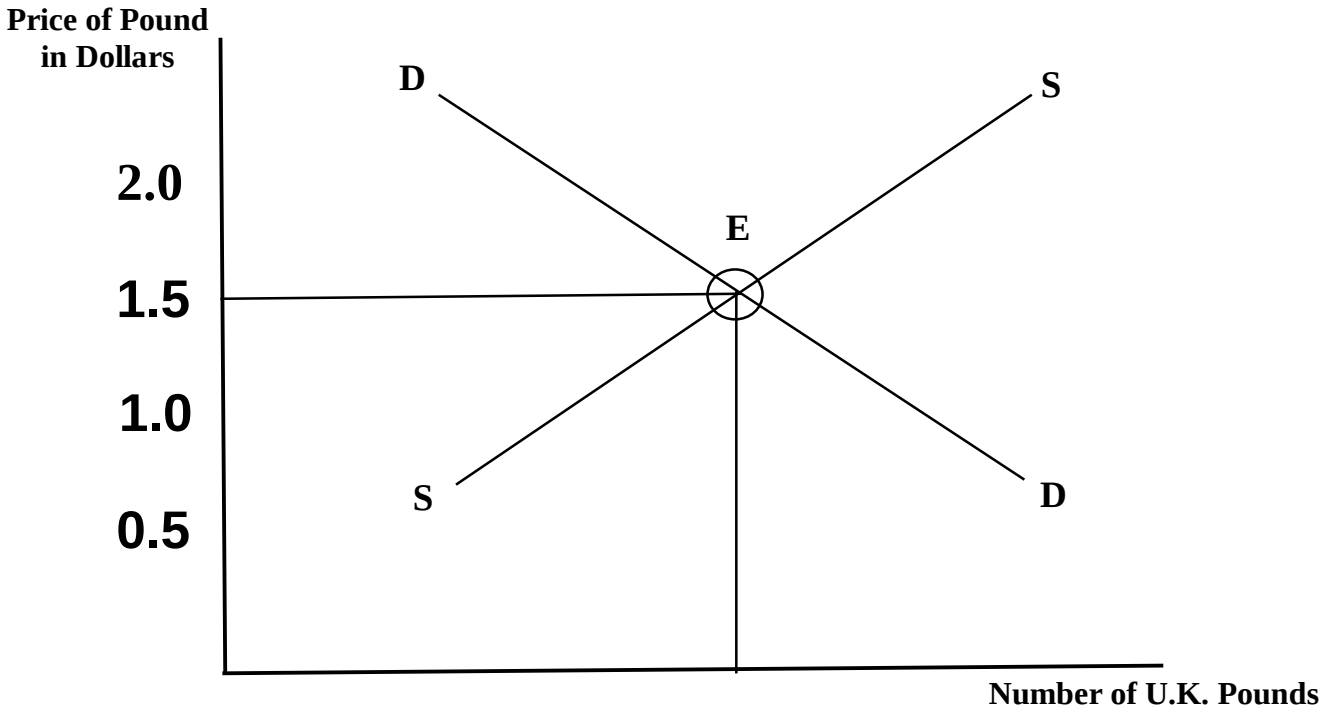
[137] *2016 Economic Report of the President, infra* Bibliography at 140-143.

[138] CNBC, *Why China fixed the yuan higher against the dollar* http://www.cnbc.com/2016/03/11/china-renminbi-yuan-jumps-against-dollar-in-pboc-fixing.html (March 11, 2016).

Graph 11-A,
Illustration of the Supply and Demand for the U.K. Pound



In Graph 11-A, if the ER were below the equilibrium point of $1.5 per pound (say the ER was $1 per pound), then the quantity of pounds demanded by U.S. businesses and individuals would exceed the quantity supplied by U.K. businesses and individuals. This conclusion is reached through the following logic: If, for example, $1 would buy one U.K. pound instead of the equilibrium $1.50 per pound, U.K. goods and services would become much cheaper for Americans and they would want to convert more dollars to pounds so they could make extra purchases. However, the number of pounds supplied by U.K. businesses and individuals would fall dramatically, and as a consequence, the price would rise.

On the other hand, if the price exceeded the equilibrium price of $1.50 (say the ER was $2 per pound), the cost of U.K. goods and services would be higher, and therefore, there would be a reduction in the number of pounds demanded by U.S. businesses and individuals (that is, the higher the price of pounds the lower the amount demanded). At the same time, U.K. businesses would want to supply more pounds than were demanded and the price would have to fall to the equilibrium price.

U. What are the foreign currency futures and forward markets?

In addition to the foreign currency market itself, foreign currency futures and forward contracts are traded. Futures are traded on organized commodities exchanges, and forward contracts are traded in an informal market. These are transactions in which currencies are traded for delivery at a future date. For example, if a U.S. firm realizes that it will have to pay a million euros three months from today at the time it takes delivery from a French manufacturer, it can enter into a futures or forward contract to buy a million euros three months from today at a particular exchange rate. As a consequence, the firm can eliminate the exchange rate risk in the transaction. Similarly, if a U.S. firm will be receiving a payment of a million euros three months from now, it could enter into a futures or forward contract to sell a million euros three months from now at a specified exchange rate and thus eliminate the foreign exchange risk in the transaction.

V. What factors (e.g foreign portfolio investment and foreign direct investment) determine supply and demand for a floating currency?

Demand for a floating currency, for example, the U.K. pound, comes from at least the following factors: First, demand for pounds comes from international trade in U.K. goods and services. For example, demand by U.S. consumers for U.K. products will lead to a demand from U.S. import businesses for the U.K. pounds needed to purchase the U.K. products.

Second, demand for pounds comes from international trade in U.K. financial instruments like stocks and bonds. For example, if Americans want to buy U.K. stocks and bonds, they will have to first purchase the U.K. pounds needed to purchase the U.K stocks. Thus, demand for U.K. financial assets leads to a demand for pounds. This type of investment in the securities of a U.K. business that is not controlled by the foreign investor is known as foreign portfolio investment. Thus, demand for a country's currency comes from the desire by foreign investors to make foreign portfolio investments in the country.

Third, demand for pounds comes from the purchase by foreigners of U.K. physical assets like factories and machinery and of U.K. stocks where the purchaser owns at least 10% of the stock. This type of investment is referred to as foreign direct investment. For example, when Ford purchased all of the stock of the U.K. Jaguar company for cash, a classic foreign direct investment, Ford first had to purchase the U.K. pounds needed to pay for the stock of Jaguar. Thus, this transaction obviously increased the demand for U.K. pounds.

Fourth, demand for pounds comes from currency speculators who think that pounds are undervalued relative to other currencies and, therefore, want to buy pounds in anticipation of a price increase. Speculators may also think that the pound is overvalued relative to other currencies, in which case the speculators would sell pounds in anticipation of the price decrease.

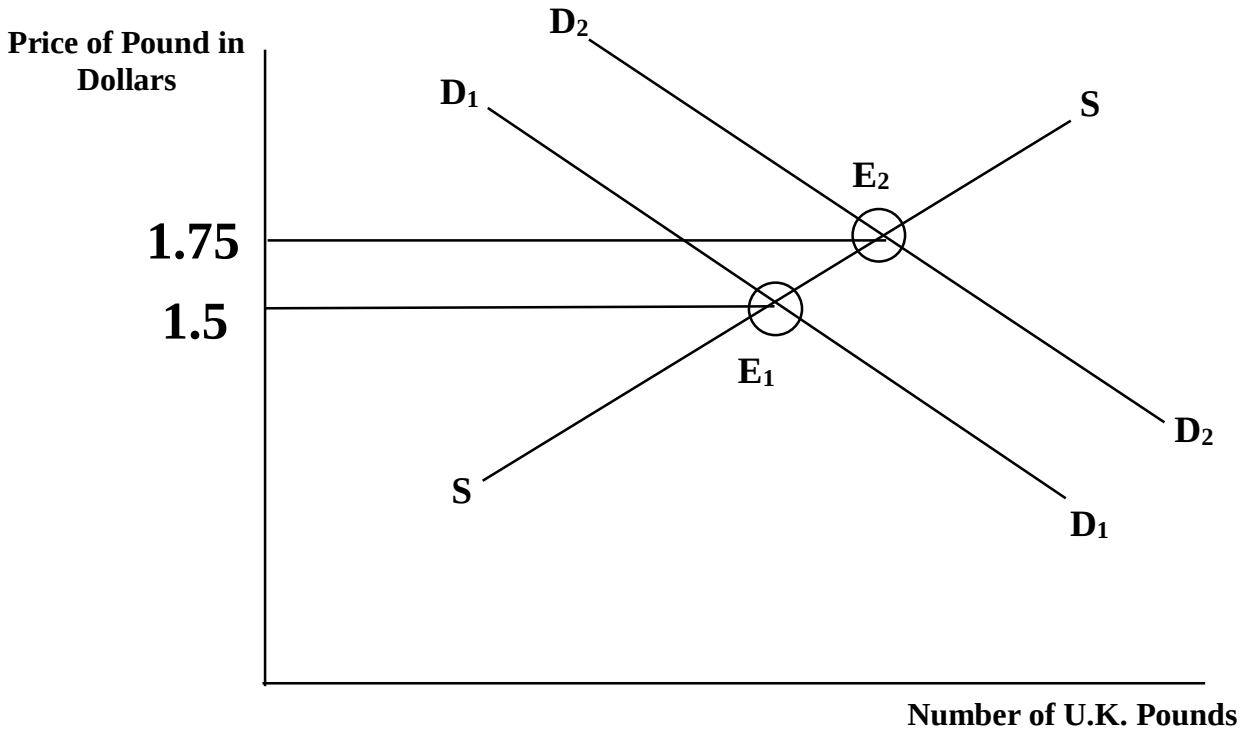
Fifth, the demand for pounds comes from an increase in the U.K. interest rate, which will result in an increase in purchases of U.K debt instruments by foreign investors who want to take advantage of the higher interest rates.

The supply of a country's currency (for example, the U.S. dollar) comes from the need by a country's people and businesses for another country's (*i.e.*, the U.K.) currency. Thus, for example, in each of the cases above involving the demand for U.K. pounds by (1) U.S. import businesses, (2) U.S investors making foreign portfolio investments in U.K. securities, and (3) U.S. firms making foreign direct investments in U.K. companies, the U.S party was supplying dollars. Thus, a party participating in a foreign currency transaction (for example, Ford buying U.K pounds) both (1) adds to the market demand for the currency being purchased (the U.K.

pound), and (2) adds to the market supply of the currency used to make the purchase (the U.S. dollar).

As with all demand curves (see Chapter 2 for a general discussion of supply and demand curves), the demand curve above for pounds is drawn on the assumption that all relevant factors, such as the foreign demand for the currency, are constant. However, assume that, for example, the principal trading partners with the U.K. experience a significant increase in economic growth that leads to a significant increase in the demand for U.K goods. In such a situation, there would be an outward shift in the demand curve for pounds. Other things being equal, this type of shift would increase the cost of pounds in dollars. As demonstrated in the next section, this increase in cost is a depreciation in the value of the dollar and a correlative appreciation in the value of the pound. This type of reaction is set out in Graph 11-B.

Graph 11-B,
Illustration of Rightward Shift in Demand Curve for Pounds Resulting from Economic Growth in the U.S. Resulting in an Appreciation of the Pound and a Depreciation of the Dollar



W. What does an "appreciation" or "depreciation" in the dollar mean?

A domestic currency is said to appreciate, that is, go up, relative to a foreign currency when ERs change so that a unit of the domestic currency can buy more units of a foreign currency. On the other hand, a domestic currency is said to depreciate, that is go down, relative to a foreign currency, when ERs change so that a unit of the currency can buy fewer units of a foreign currency. For every domestic currency that appreciates against a foreign currency, the foreign currency depreciates against the domestic currency and vice versa; there can be no appreciation without a corresponding depreciation.

This appreciation with a corresponding depreciation is illustrated in the following description in the Wall Street Journal of the reaction of the dollar to a jobs report: "The dollar skidded against its major European rivals Friday after the release of a U.S. jobs report that was much worse than expected. In afternoon trading, the euro was at $1.2320, up from $1.2284 immediately after the report. . . . The pound rose to $1.8332 from $1.8202; the dollar dropped against the Swiss franc to 1.2317 francs from 1.2484 francs."[139] This article mixes statements regarding depreciation and appreciation. It starts by saying the dollar dropped or depreciated "against major European rivals." On the other hand, it says that the euro and the U.K. pound were both up, or appreciated, against the dollar. The article then reverses course and says that the dollar dropped, or depreciated, against the Swiss franc. In each case, however, the dollar depreciated against these currencies.

The article went on to point out that the reason the weak job report led to the depreciation was the belief that the weakness in the job market would lead the Fed to increase rates at a slower pace than the market had previously expected. As discussed previously and will be explored in greater depth later, higher interest rates tend to lead to an appreciation in a currency, and since the market was anticipating higher rates before the jobs announcement but expected lower rates after the announcement, the dollar could be expected to depreciate as a result of the announcement.

X. What is a devaluation or revaluation?

An appreciation or depreciation in a currency should be distinguished from a devaluation or revaluation. A devaluation is a reduction in the official value of a fixed exchange rate currency, and a revaluation is an increase the official value of such a currency.

For example, assume that the official exchange ratio between the U.S. dollar and Foreign Currency X (the currency of Country X) is 8 X per U.S. dollar. If Country X decides that X is undervalued relative to the dollar (that is, too few X are being paid per dollar), it might devalue the X by moving the official exchange rate to, say, 9 X per dollar. One impact of this type of move would be to make goods in Country X cheaper because more goods could be purchased per U.S. dollar.

On the other hand, if Country X decided that the X was overvalued relative to the dollar (that is, too many X are being paid per dollar), it might have a revaluation of the X by moving the official exchange rate to, say, 7.5 X per dollar.

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[139] Jamie McGeever, *Disappointment in Job Growth Sinks Dollar Against the Euro*, Wall Street Journal On Line, at www.wsj.com, (July 2, 2004).

Y. What is the relationship between (1) an appreciation or a depreciation, and (2) a revaluation or a devaluation?

An appreciation of a floating rate currency is the economic equivalent of a revaluation of a fixed rate currency. In both cases, the currency becomes stronger (*i.e.*, purchases more of another currency). On the other hand, a depreciation in a floating rate currency is the economic equivalent to a devaluation of a fixed rate currency. In both cases, the currency becomes weaker (*i.e.*, purchases less of another currency).

Z. What is the relationship between interest rates and exchange rates?

The higher a nation's interest rates the more desirable the debt securities issued by that nation's debtors. Thus, for example, an increase in interest rates in the U.S., without an increase in foreign rates, will make debt instruments issued by U.S. debtors more attractive relative to the debt instruments issued by debtors in countries with lower interest rates. Thus, in general, higher interest rates in the U.S. will tend to make it easier to attract foreign portfolio investment in U.S. debt instruments, including U.S. Treasury securities. As indicated above, an increase in foreign portfolio investment in the U.S. would tend to increase the demand for the dollar and thereby cause the dollar to appreciate relative to other currencies. Also, the higher rates will cause U.S. investors to make fewer foreign portfolio investments in foreign securities, thus reducing the demand for such securities and further reinforcing the appreciation in the dollar.

On the other hand, a decrease in U.S interest rates, without a decrease in foreign rates, would tend to lead to a reduction in foreign portfolio investment in U.S. debt instruments and thereby cause the dollar to depreciate relative to other currencies. Further, it would increase foreign portfolio investment by U.S. investors in foreign debt securities thereby increasing the demand for such securities and reinforcing the depreciation in the dollar.

Although as a result of the Financial Crisis of 2007-2008, the Fed has significantly reduced the interest rates on U.S. Treasury securities, those securities remain an attractive investment because of their safety relative to the debt securities of other countries.

AA. What is the "purchasing power parity" theory of exchange rates?

The purchasing power parity (PPP) theory holds that in the long run the exchange rate between two currencies, such as the U.S. dollar and the U.K. pound, will adjust to take account of differences in the price levels in the two countries. Thus, for example, if the same market basket of goods cost $150 in the U.S. and 100 pounds in the U.K., then under the PPP theory, in the long run the exchange rate between the dollar and the pound should tend towards 1.5 dollars per pound, or 1.5 to 1. This would mean that a person in the U.K. could convert 100 pounds to $150 and buy the same market basket of goods in the U.S. that she could buy in the U.K. and that a person in the U.S. could convert $150 to 100 pounds and buy the same market basket of goods in the U.K. that she could buy in the U.S. Thus, if the current exchange rate between the dollar and the pound is less than 1.5 to 1, the dollar is overvalued (that is, the dollar is buying too many pounds), and if the current exchange rate is more than 1.5 to 1, the dollar is undervalued (that is, the dollar is buying too few pounds).

The PPP could be approximated by comparing the price of a particular product in two countries after taking account of the exchange rate. This is what *The Economist* magazine does with the periodic publication of its Big Mac Index, [140] which is based on McDonalds' Big Mac,

[140] *The Big Mac Index*, The Economist, at www.theeconomist.com (May 27, 2004).

which is sold in over 100 countries and is essentially the same wherever sold. As *The Economist* explains: "The Big Mac PPP is the exchange rate that would leave a burger in any country costing the same as in America." Thus, the first step in the Big Mac Index is to convert the price of the Big Mac in the foreign country into dollars at the current exchange rate. If the price determined equals the U.S. price the exchange rate is consistent with the price that the PPP theory would predict.

For example, the May 27, 2004 issue of *The Economist* showed that at that time (1) the average price of a Big Mac in the U.S. was $2.90, and (2) the cost in U.S. dollars of a Big Mac in Canada was $2.33 and the cost in U.S. dollars in the U.K. was $3.33. Thus, under this theory, the U.S. dollar was undervalued (buys too few) relative to the pound, because it would take more than $2.90 dollars to buy a Big Mac in the U.K., and the U.S. dollar was overvalued (buys to many) relative to the Canadian dollar, because it would take less than $2.90 dollars to buy a Big Mac in Canada. Consistent with this observation, a column in *The Economist* showed that the Canadian dollar was undervalued by 20% against the dollar and that the pound was overvalued by 16% against the dollar. Thus, under the PPP theory, it could be expected that the Canadian dollar would appreciate against the dollar and that the pound would depreciate.

The Economist gave the following caveat on the use of the Big Mac Index: "The Big Mac index was never intended as a precise forecasting tool. Burgers are not traded across borders as the PPP theory demands; prices are distorted by differences in the cost of non-tradable goods and services, such as rents."

BB. Does the U.S. have exchange controls?

There generally are no exchange controls in the U.S. Consequently, foreign investors can (1) invest in U.S. securities and businesses without restriction (except for the restrictions discussed previously related to national security), and (2) repatriate the proceeds of their investment without restriction.

CC. Has the dollar appreciated or depreciated lately and what are the projections for 2012 and beyond?

In its *2012 Budget and Economic Outlook*, the CBO gives the following (1) picture of the then recent movements in the value of the dollar, and (2) projections of future movements:

> [The] value [of the dollar] fell [depreciated] for most of the past decade, as international investors became less willing to add to their increasingly large holdings of U.S. dollar assets [including U.S. Treasury debt]. However, the value of the dollar turned sharply upward [appreciated] during the global financial crisis, when international investors purchased large amounts of U.S. Treasury securities to reduce their exposure to volatile or steadily falling prices of other assets. The value of the dollar resumed its decline [depreciation], as the worst of the financial crisis passed, but has strengthened again since [July 2011], as concerns have escalated about the banking and fiscal problems in Europe. In CBO's forecast, the dollar returns to its downward trend when the European problems fade in the next few years.[141]

The observation shows that even with the falling interest rates in the U.S during 2011 and 2012, foreign investors have invested in the U.S., particularly in Treasury debt. This has caused

[141] *2012 Budget and Economic Outlook*, *infra* at Bibliography at 35.

an appreciation in the dollar. This is because U.S. Treasuries became a safe-haven for investment even though the interest rates on those securities are at historically low levels.

In its *2016 Budget and Economic Outlook*, the CBO states that the "continued appreciation of the exchange rate of the U.S. dollar through 2016 is projected to contribute to lower net exports this year and next."[142]

DD. What is the balance of payments?

The balance of payments (BOP) is the record of the transactions of U.S. residents with the rest of the world. Thus, it takes account of all cross border transactions. These transactions can be categorized as (1) the export and import of goods and services, which is referred to as trade in goods and services, and (2) the purchase and sale by U.S persons of foreign assets and the purchase and sale by foreign persons of U.S. assets, that is, inbound and outbound foreign portfolio investment and foreign direct investment.

The BOP is divided between a current account and a capital account. The current account measures (1) the trade in goods and services, that is, the financial impact of imports and exports and to a lesser degree certain transfer payments, such as international aid, and (2) investment income flows, that is, the income received by U.S. persons on foreign investments and the income received by foreign persons on U.S. investments. These investment income flows (*e.g.*, interest, dividends, and royalties) can be viewed as the service payments attributable to capital. The trade in goods and services account will be in surplus if exports exceed imports, plus net transfers to foreigners. The trade in goods and services account is the net exports component of GDP.

The International Monetary Fund divides the current account into: a trade balance, which reflects the import and export of goods; a services balance, which reflects the import and export of services; an income balance, which reflects investment flows; and a current transfer balance, which reflects transfer payments.

The capital account measures sales and purchases of assets in inbound and outbound foreign portfolio investment and foreign direct investment transactions. Thus, for example, Ford's purchase of the stock of Jaguar, a U.K. company, in a foreign direct investment transaction, was reflected in the capital account, whereas the dividend income Ford receives from Jaguar is included in the current account because it is a charge for the use of capital. The net position in the capital account is referred to as net foreign investment (NFI).

All private transactions in the current account and capital account generally must add up to zero. The logic behind this observation can be explained by the following simplified example, which will require the reader to figure out what likely will happen in the capital account. Assume that the U.S. has just two current account transactions in a year, and both of the transactions take place with firms in France, which has the euro as its currency. The two transactions are (1) the purchase (an import) by a U.S. firm of French wine from a French firm for 75 euro, and (2) the sale (an export) by a U.S. firm of a cell phone to a French firm for $100. Also, assume that the exchange ratio between the dollar and the euro is 1 to 1 and that all foreign exchange transactions take place within either the U.S or France. What can be expected to happen in the capital account assuming that any such transaction occurs between residents of the U.S. and France?

The import of the French wine will require the U.S. firm first to convert $75 dollars to 75 euro. To make this conversion, the U.S. firm buys 75 euros from a French resident (FRes). This

[142] *2016 Budget and Economic Outlook*, *infra* at Bibliography at 41.

puts $75 in the hands of FRes. The U.S. firm then makes the payment of 75 euro, and the French wine is delivered. The French firm purchasing the cell phone will have to convert 100 euros to $100 to make the purchase. The French firm acquires the dollars in two transactions. First, it buys $75 from FRes who got the dollars from the sale of euros to the U.S. firm. Second, it buys the additional $25 from a U.S. resident (USRes). After getting the $100, the payment is made, and the cell phone is delivered.

After these transactions, the net export position, or the current account position, of the U.S. is a positive $25 because exports (that is, the $100 cell phone) have exceeded imports (that is, the 75 euro wine) by that amount. As a result of this excess, USRes is now holding 25 euros. Assuming that the only transaction available to USRes for the use of these euros is a capital account transaction, it could be expected that USRes, or some U.S. person to whom he sold the euros, would use the 25 euros to purchase a French asset, such as stock in a French company or French government bonds. This would generate a negative balance of $25 in the capital account. Therefore, the positive balance in the current account would be exactly offset by the negative balance in the capital account.

The IMF sets out the following explanation of why these accounts should generally balance. "In principle the world current, capital and financial accounts should each sum to zero, but this does not happen in practice because of different recording practices among countries with regard to coverage, valuation, classification, different timing of cross-border transactions and transfers that are missed altogether by one party or the other."[143]

EE. What was the balance of payments for 2011?

The quarterly report on *U.S. International Transactions* of the Bureau of Economic Analysis (BEA) of the Department of Commerce provides a detailed analysis of the balance of payments. The Report issued on September 15, 2016 provided the following summary of the major items of the Current Account (that is, trade in goods and services and investment income flows) of the U.S. balance of payments for the second quarter of 2016:

U.S. International Transactions: Second Quarter 2016

Current Account Balance

The U.S. current-account deficit decreased to $119.9 billion (preliminary) in the second quarter of 2016 from $131.8 billion (revised) in the first quarter of 2016, according to statistics released by the Bureau of Economic Analysis (BEA). The deficit decreased to 2.6 percent of current-dollar gross domestic product (GDP) from 2.9 percent in the first quarter.

The $12.0 billion decrease in the deficit reflected an $8.9 billion increase in the surplus on primary income to $42.9 billion, a $3.1 billion decrease in the deficit on secondary income to $37.6 billion, and a $0.4 billion increase in the surplus on services to $61.5 billion. These changes were partly offset by a $0.5 billion increase in the deficit on goods to $186.7 billion.

Current Account Transactions (tables 1-5)

[143] International Monetary Fund, 1999 *Annual Report*, at Balance of Payments.

Exports of goods and services and income receipts

Exports of goods and services and income receipts increased $18.0 billion in the second quarter to $777.0 billion.

- Primary income receipts increased $10.4 billion to $198.9 billion, primarily reflecting an increase in direct investment income.
- Goods exports increased $6.1 billion to $360.2 billion, reflecting increases in industrial supplies and materials, primarily in petroleum and products, and foods, feeds, and beverages. A decrease in consumer goods except food and automotive partly offset these increases.

Imports of goods and services and income payments

Imports of goods and services and income payments increased $6.1 billion to $896.9 billion.

- Goods imports increased $6.5 billion to $546.9 billion, reflecting increases in imports of industrial supplies and materials, largely in energy products, and capital goods except automotive. These increases were partly offset by a decrease in imports of consumer goods, except food and automotive, particularly other household goods, including cell phones.
- Primary income payments increased $1.4 billion to $155.9 billion, reflecting an increase in direct investment income.
- Secondary income payments decreased $2.4 billion to $69.8 billion, reflecting a decrease in U.S. government transfers, both in U.S. government grants and in U.S. government pensions and other transfers.[144]

The BEA report gave the following picture of the Financial Account (that is, the purchase of foreign financial assets by U.S. persons and the purchase of U.S. financial assets by foreigners), which is a part of the Capital Account, for the second quarter or 2016:

Financial Account (tables 1, 6, 7, and 8)

Net U.S. borrowing measured by financial-account transactions was $31.1 billion in the second quarter, a $14.3 billion decrease from net borrowing of $45.4 billion in the first quarter. An increase in net U.S. acquisition of financial assets excluding financial derivatives was mostly offset by an increase in net U.S. incurrence of liabilities excluding financial derivatives. Net transactions in financial derivatives other than reserves reflected more net lending in the second quarter than in the first quarter.

Financial assets

Net U.S. acquisition of financial assets excluding financial derivatives increased $233.8 billion to $293.7 billion.

- Transactions in portfolio investment assets increased $167.3 billion to net U.S. acquisition of $109.9 billion, as a shift to net acquisition of equity and investment fund shares more than offset a shift to net sales of debt securities.
- Net U.S. acquisition of direct investment assets increased $38.7 billion to $106.1 billion, largely reflecting an increase in net acquisition of equity.

[144] Department of Commerce, Bureau of Economic Analysis, *U.S. International Transactions, Second Quarter 2016* (September 15, 2016).

- Net U.S acquisition of other investment assets increased $26.5 billion to $77.5 billion, as a shift to net provision of loans to foreigners exceeded a shift to net withdrawal of U.S. residents' deposits abroad (in currency and deposits).

Liabilities

Net U.S. incurrence of liabilities excluding financial derivatives increased $232.2 billion to $350.4 billion.

- Net U.S. incurrence of other investment liabilities increased $143.9 billion to $192.0 billion, mostly reflecting a shift to net incurrence of deposit liabilities in currency and deposits.
- Net U.S. incurrence of direct investment liabilities increased $68.3 billion to $159.6 billion, reflecting increases in net incurrence of both equity and debt instrument liabilities.

Financial derivatives

Transactions in financial derivatives other than reserves reflected second-quarter net lending of $25.6 billion, a $12.6 billion increase from the first quarter.[145]

FF. What are the determinants of exports and imports?

Exports are sensitive to the income of our trading partners and imports are sensitive to the income of Americans. Thus, to the extent that the economic growth of our trading partners accelerates, it can be expected that exports from the U.S. will accelerate and to the extent that economic growth accelerates in the U.S., it can be expected that imports will accelerate. In addition, a strong dollar will tend to increase imports because it makes imports cheaper, and a weak dollar will tend to increase exports because it makes exports cheaper.

GG. What impact do net exports have on aggregate demand?

An increase in Net Exports will have a multiplier effect on GDP, just like the effect of an increase in Consumption, Investment, and Government spending. Thus, it will also shift the AD curve to the right, thereby increasing both GDP and the price level. A decrease in Net Exports will have the opposite effect.

HH. What is the CBO's projection of the impact Net Exports will have on U.S. economic growth for 2012 and beyond?

The CBO's *2016 Budget and Economic Outlook* contains the following detailed (1) projection of the contribution of Net Exports to U.S. economic growth, and (2) an analysis of the impact of the exchange rate for the dollar on Net Exports:

Net Exports. CBO expects that real net exports will fall and slow the growth of GDP from 2016 through 2018, just as they did last year. In later years, net exports are expected to make a small contribution to growth. [Net exports are currently negative, meaning that the United States imports more than it exports. A decrease in net exports indicates that imports are increasing more than exports.] CBO's projection of net exports is based primarily on the significant increase in the exchange value of the dollar during the past two years and on the agency's forecast of that value (see Figure 2-4). In the past two years, the trade-weighted U.S. dollar appreciated by approximately 19 percent.14

[145] *Id*.

That appreciation occurred because long term interest rates declined among the United States' leading trading partners, particularly in Europe and Asia, and because the outlook for foreign growth deteriorated. Those developments increased the exchange value of the dollar by boosting the relative demand for dollar denominated assets, which reduced net exports in the past year and will continue to do so this year. CBO expects the stronger growth in the United States compared with that among its trading partners to continue to contribute to an increasing divergence between interest rates in the United States and those abroad this year. That effect will further push up the exchange value of the dollar and contribute to weaker net exports over the next two years. As growth in foreign economies strengthens, however, foreign central banks will gradually tighten their monetary policies and foreign interest rates will generally rise, in CBO's estimation. As a result, the exchange value of the dollar is expected to decrease and contribute to stronger net exports in 2019 and beyond.

CBO's projection of net exports also is based partly on important differences in the expected pace of economic activity in the United States and among its leading trading partners. CBO expects growth in the United States this year to outpace that of the leading U.S. trading partners; for example, China's economic growth is projected to continue to slow over the next few years, and continued decline in commodity prices will dampen growth in Canada and Mexico over the next year. The effects of modest improvements to economic growth in the euro zone and Japan are expected to only partially offset the effects of slow growth in the economies of China, Canada, and Mexico. Consequently, U.S. spending on imports is projected to rise more than the trading partners' spending on U.S. exports will, reducing net exports. As commodity prices rebound, CBO expects growth among the nation's major trading partners (especially Canada, Mexico, and other commodity-producing economies) to rise and exceed the rate of U.S. economic growth—slightly boosting net exports.[146]

II. What is the IMF's projection for world economic growth in 2012?

In April 2016, the IMF issued its annual *World Economic Outlook* in which the IMF had the following projections for global economic growth:

> The baseline projection for global growth in 2016 is a modest 3.2 percent, broadly in line with last year, and a 0.2 percentage point downward revision relative to the January 2016 *World Economic Outlook Update*. The recovery is projected to strengthen in 2017 and beyond, driven primarily by emerging market and developing economies, as conditions in stressed economies start gradually to normalize. But uncertainty has increased, and risks of weaker growth scenarios are becoming more tangible. The fragile conjuncture increases the urgency of a broad-based policy response to raise growth and manage vulnerabilities.[147]

This report shows the interconnectedness of national economies and how growth in the U.S. is to an extent dependent on growth in other nations. This is principally because as other nations grow, U.S. exports are likely to grow.

[146] *2016 Budget and Economic Outlook infra* Bibliography, at 42.
[147] IMF, *2016 World Economic Outlook, infra* Bibliography, at xv.

JJ. What is the link between (1) the trade deficit, and (2) the budget deficit?

Economic logic can show that there may be a link between the trade deficit (*i.e.*, an excess of imports over exports) and the budget deficit (an excess of government spending over revenues).[148] For example, in 2011, there was a trade deficit of approximately $473.4 billion and a budget deficit of approximately $1.2 trillion. It is reasonable to expect that a budget deficit will contribute to a trade deficit, because some of the government's spending will go to consumers and businesses that will use the funds to the purchase imports, which can lead to a trade deficit.

It can be shown algebraically that if savings (S) equals investment (I), then a trade deficit (*i.e.*, an excess of imports (IM) over exports (X)) will exactly equal the budget deficit (*i.e.*, an excess of government spending (G) over taxes (T)). The formula is as follows: X-IM = (S-I) – (G-T).[149] For example, assume that X is 100 and IM is 110, giving a trade deficit of 10. If S is exactly equal to I, then G must exceed T by 10, giving a budget deficit of 10. Baumol and Binder describe this as a "loose link."[150]

KK. What is the relationship between free trade and outsourcing?

One of the side effects of free trade is that cheap foreign labor can be beneficial to U.S. consumers in the form of lower prices for imported goods. The other side of this coin, however, is that to the extent that U.S. companies move overseas to take advantage of this cheap foreign labor and then sell the products back into the U.S., labor in the U.S. is harmed. Thus, there is a trade-off between (1) American consumers reaping some of the benefits from cheap foreign labor in the form of lower prices for imported goods, and (2) the cost of greater unemployment in the U.S. labor market to the extent that cheap foreign labor comes from moving U.S. manufacturing operations overseas. This is one aspect of the outsourcing debate that is raging in the U.S at this time. The positions of Secretary Clinton and Mr. Trump on this issue are addressed below and in Chapter 23, which addresses tax policy.

LL. What is the relationship between the tax system and outsourcing including inversions?

As discussed in Chapter 23, which deals with tax policy, the current system of taxing foreign income provides an incentive for U.S. companies to set up operations in low-tax foreign jurisdictions. Thus, the tax system can encourage outsourcing, including inversions. Various proposals for addressing this issue, including the positions of Secretary Clinton and Mr. Trump, from a tax policy perspective are examined in Chapter 23.

MM. Do workers hurt by outsourcing receive assistance?

When U.S. companies move overseas and as a result generate unemployment in the U.S. labor market, transitional assistance may be needed for affected employees. Several governmental agencies have Trade Adjustment Assistance programs, including the U.S. Department of Labor, which describes its program as follows:

> Trade Adjustment Assistance (TAA) and Alternative Trade Adjustment Assistance (ATAA) help trade-affected workers who have lost their jobs as a result of

[148] *See e.g.*, Baumol and Binder, *Economics 2009*, *infra* Bibliography at 771.
[149] *Id*.
[150] *Id*.

increased imports or shifts in production out of the United States. Certified individuals may be eligible to receive one or more program benefits and services depending on what is needed to return them to employment.[151]

The Department of Labor explains that Trade Adjustment Assistance includes the following programs and benefits:

- Rapid Response Assistance - provided by the Dislocated Worker Unit in the state where workers are laid off. . . .
- Reemployment Services - offer workers assistance in finding a new job. . . .
- Job Search Allowances - may be payable to cover expenses incurred in seeking employment outside a certified worker's normal commuting area, if a suitable job is not available in the area. . . .
- Relocation Allowances - may reimburse approved expenses when certified workers must move to a new area of employment outside their normal commuting area. . . .
- Training - is provided to certified workers who do not have the skills to secure suitable employment in the existing labor market. . . .
- Income Support - Trade Readjustment Allowances (TRA) - are available to provide income support to individuals while they are participating in full time training. . . .
- Health Coverage Tax Credit (HCTC) - Workers who are eligible to receive income support under the TAA program may be eligible to receive tax credits for 65% of the monthly health insurance premium they pay.[152]

NN. What is NAFTA?

The U.S. has entered bilateral and multilateral free trade agreements, such as the North American Free Trade Agreement (NAFTA) with Canada and Mexico. This agreement eliminates tariffs, quotas, and other trade barriers, which are discussed below. The Preamble to NAFTA states:

The Government of Canada, the Government of the United Mexican States and the Government of the United States of America, resolved to:

STRENGTHEN the special bonds of friendship and cooperation among their nations;

CONTRIBUTE to the harmonious development and expansion of world trade and provide a catalyst to broader international cooperation;

CREATE an expanded and secure market for the goods and services produced in their territories;

REDUCE distortions to trade;

ESTABLISH clear and mutually advantageous rules governing their trade;

ENSURE a predictable commercial framework for business planning and investment;

BUILD on their respective rights and obligations under the General Agreement on Tariffs and Trade and other multilateral and bilateral instruments of cooperation;

ENHANCE the competitiveness of their firms in global markets;

FOSTER creativity and innovation, and promote trade in goods and services that are the subject of intellectual property rights;

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[151] U.S. Department of Labor, Trade Adjustment Assistance (TAA) and Alternative Trade Adjustment Assistance (ATAA) Services and Benefits, at http://www.doleta.gov/tradeact/benefits.cfm (April 18, 2012).

[152] U.S. Department of Labor, TAA Program Services and Benefits, at http://www.doleta.gov/tradeact/benefits.cfm#2 (April 18, 2012).

CREATE new employment opportunities and improve working conditions and living standards in their respective territories;

UNDERTAKE each of the preceding in a manner consistent with environmental protection and conservation;

PRESERVE their flexibility to safeguard the public welfare;

PROMOTE sustainable development;

STRENGTHEN the development and enforcement of environmental laws and regulations; and

PROTECT, enhance and enforce basic workers' rights . . . .

During the Bush II Administration in 2003, the U.S. Trade Representative's Office explained that NAFTA (which was, as indicated below, initiated by the Bush I Administration and fully adopted during the Clinton Administration) has been a "huge success for the U.S. and its NAFTA partners. It has helped Americans work smarter, earn more and increase purchasing power. It has contributed to more trade, higher productivity, better jobs, and higher wages."[153] This office also explained that as of 2003:

- In ten years of NAFTA, total trade among the three countries has more than doubled, from $306 billion to $621 billion in 2003. That's $1.7 billion in trade every day.
- U.S. exports to Canada and Mexico grew from $142 billion to $263 billion in NAFTA's first ten years. And Mexican exports to the U.S. grew 242 percent, improving lives and reducing poverty in Mexico.[154]

This litany of the benefits of NAFTA set out by the Bush Administration could easily have been written by the Clinton Administration and possibly the Obama Administration.

OO. What President initiated NAFTA?

NAFTA was initiated by President George H.W. Bush (Bush I) in the fall of 1992, and the incoming president, President Clinton, supported it before Congress and the American people despite opposition from many labor organizations. Thus, NAFTA had bi-partisan support at the top from its early days. Interestingly, at the October 7, 1992 signing ceremony at the White House, President George H. W. Bush set out the following argument in support of NAFTA:

> And if anyone doubts the importance of trade for creating jobs, they should come to this great state, come to the Lone Star State. In 1991, Texas exports totalled $47 billion, just from this state. And of that amount, over $15 billion went to Mexico, almost 2-1/2 times as much as five years ago. . . .
>
> Free trade is the way of the future. . . .
>
> But NAFTA's importance is not limited to trade. We've taken particular care that our workers will benefit and the environment will be protected. And as a result of NAFTA, the US and Mexico are working more closely than we ever have to strengthen cooperation on such important labor issues as occupational health and safety standards, child labor, labor- management relations. And then, on the environment, an issue of critical concern for all three leaders here today, we have agreed on practical, effective steps to address urgent issues such as border pollution, as well as longer-term problems such as preventing countries from lowering environmental standards to attract foreign investment. . . .

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[153] U.S. Trade Representative's Office, *Trade Facts, Myth: NAFTA was a failure for the U.S.*, at www.ustr.gov. (November 2003).

[154] *Id*.

And I know, for some, NAFTA will be controversial precisely because it opens the way to change. Some of NAFTA's critics will fight the future, throw obstacles in the way of this agreement, to mask a policy of protectionism. But history shows us that any nation that raises walls and turns inward is destined only for decline. We cannot make that choice for ourselves or for our children. And we must set our course for the future, for free trade.

PP. What is the Trans-Pacific Partnership (TPP)?

1. What is the TPP and who are the parties to it?

The TPP is a trade agreement that, as of October 2016, has been negotiated by the U.S. Office of Trade Representative with several countries. However, the agreement has not yet been ratified by the Senate. The website of the Office of the U.S. Trade Representative provides the following "*Overview of the Trans Pacific Partnership*," which sets out the parties to it:

> INCREASING AMERICAN EXPORTS, SUPPORTING AMERICAN JOBS
>
> President Obama announced in November 2009 the United States' intention to participate in the Trans-Pacific Partnership (TPP) negotiations to conclude an ambitious, next-generation, Asia-Pacific trade agreement that reflects U.S. economic priorities and values. Through this agreement, the Obama Administration seeks to boost U.S. economic growth and support the creation and retention of high-quality American jobs by increasing exports in a region that includes some of the world's most robust economies and that represents nearly 40 percent of global GDP. The Obama Administration, in close partnership with Congress and a wide range of stakeholders, is working to conclude a strong agreement that addresses the issues that U.S. businesses and workers face in the 21st century.
>
> LEADING ASIA-PACIFIC REGIONAL INTEGRATION INITIATIVE
>
> The United States is negotiating the TPP with 11 other like-minded countries (Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam) that share a commitment to concluding a high-standard, ambitious agreement and to expanding the initial group to include additional countries throughout the Asia-Pacific region. We are in the endgame of negotiations, making TPP the most promising platform for Asia-Pacific regional trade integration.
>
> AMERICAN COMPETITIVENESS IN THE ASIA-PACIFIC
>
> The TPP is the cornerstone of the Obama Administration's economic policy in the Asia Pacific. The large and growing markets of the Asia-Pacific already are key destinations for U.S. manufactured goods, agricultural products, and services suppliers, and the TPP will further deepen this trade and investment. As a group, the TPP countries are the largest goods and services export market of the United States. U.S. goods exports to TPP countries totaled $698 billion in 2013, representing 44 percent of total U.S. goods exports. U.S. exports of agricultural products to TPP countries totaled $63 billion in 2013, 42 percent of total U.S. agricultural exports. U.S. private services exports totaled $172 billion in 2012 (latest data available), 27 percent of total U.S. private services exports to the world. America's small- and medium-sized enterprises alone exported $247 billion to the Asia-Pacific in 2011 (latest data available).[155]

[155] Office of U.S. Trade Representative, *Overview of the Trans Pacific Partnership*, https://ustr.gov/tpp/overview-of-the-TPP (Oct. 17, 2016).

2. What does the Preamble to the TPP say?

The preamble to the TPP gives some of the background and purpose of the agreement. The preamble states:

PREAMBLE

The Parties to this Agreement, resolving to:

ESTABLISH a comprehensive regional agreement that promotes economic integration to liberalise trade and investment, bring economic growth and social benefits, create new opportunities for workers and businesses, contribute to raising living standards, benefit consumers, reduce poverty and promote sustainable growth;

STRENGTHEN the bonds of friendship and cooperation between them and their peoples;

BUILD on their respective rights and obligations under the Marrakesh Agreement Establishing the World Trade Organization;

RECOGNISE the differences in their levels of development and diversity of economies;

STRENGTHEN the competitiveness of their businesses in global markets and enhance the competitiveness of their economies by promoting opportunities for businesses, including promoting the development and strengthening of regional supply chains;

SUPPORT the growth and development of micro, small and medium- sized enterprises by enhancing their ability to participate in and benefit from the opportunities created by this Agreement;

ESTABLISH a predictable legal and commercial framework for trade and investment through mutually advantageous rules;

FACILITATE regional trade by promoting efficient and transparent customs procedures that reduce costs and ensure predictability for their importers and exporters;

RECOGNISE their inherent right to regulate and resolve to preserve the flexibility of the Parties to set legislative and regulatory priorities, safeguard public welfare, and protect legitimate public welfare objectives, such as public health, safety, the environment, the conservation of living or non-living exhaustible natural resources, the integrity and stability of the financial system and public morals;

RECOGNISE further their inherent right to adopt, maintain or modify health care systems;

AFFIRM that state-owned enterprises can play a legitimate role in the diverse economies of the Parties, while recognising that the provision of unfair advantages to state-owned enterprises undermines fair and open trade and investment, and resolve to establish rules for state-owned enterprises that promote a level playing field with privately owned businesses, transparency and sound business practices;

PROMOTE high levels of environmental protection, including through effective enforcement of environmental laws, and further the aims of sustainable development, including through mutually supportive trade and environmental policies and practices;

PROTECT and enforce labour rights, improve working conditions and living standards, strengthen cooperation and the Parties' capacity on labour issues;

PROMOTE transparency, good governance and the rule of law, and eliminate bribery and corruption in trade and investment;

RECOGNISE the important work that their relevant authorities are doing to strengthen macroeconomic cooperation, including on exchange rate issues, in appropriate fora;

RECOGNISE the importance of cultural identity and diversity among and within the Parties, and that trade and investment can expand opportunities to enrich cultural identity and diversity at home and abroad;

CONTRIBUTE to the harmonious development and expansion of world trade and provide a catalyst to broader regional and international cooperation;

ESTABLISH an Agreement to address future trade and investment challenges and opportunities, and contribute to advancing their respective priorities over time; and

EXPAND their partnership by encouraging the accession of other States or separate customs territories in order to further enhance regional economic integration and create the foundation of a Free Trade Area of the Asia Pacific,

3. What does the U.S. Trade Representative (USTR) say are the Benefits of the TPP?

The website of the Office of the U.S. Trade Representative describes the Benefits of the TPP as follows:

> The Trans-Pacific Partnership (TPP) is a new, high-standard trade agreement that levels the playing field for American workers and American businesses, supporting more Made-in-America exports and higher-paying American jobs. By eliminating over 18,000 taxes—in the form of tariffs—that various countries put on Made-in-America products, TPP makes sure our farmers, ranchers, manufacturers, and small businesses can compete—and win—in some of the fastest-growing markets in the world. With more than 95 percent of the world's consumers living outside our borders, TPP will significantly expand the export of Made-in-America goods and services and support American jobs.
>
> - TPP Eliminates over 18,000 Different Taxes on Made-in-America Exports
> - TPP Includes the Strongest Worker Protections of Any Trade Agreement in History
> - TPP Includes the Strongest Environmental Protections of Any Trade Agreement in History
> - TPP Helps Small Businesses Benefit from Global Trade
> - TPP Promotes E-Commerce, Protects Digital Freedom, and Preserves an Open Internet
> - TPP Levels the Playing Field for U.S. Workers by Disciplining State-Owned Enterprises (SOEs)
> - TPP Prioritizes Good Governance and Fighting Corruption
> - TPP Includes First Ever Development Chapter
> - TPP Capitalizes on America's Position as the World Leader in Services Exports.[156]

4. How does the TPP "Upgrade" NAFTA?

The website of the Office of the U.S. Trade Representative describes as follows the manner in which the TPP will "Upgrade" NAFTA:

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[156] Office of U.S. Trade Representative, *Overall U.S. Benefits of TPP*, at https://ustr.gov/tpp/#overall-us-benefits (Oct. 17, 2016).

As President Obama has made clear, past trade deals – including the North American Free Trade Agreement, or NAFTA – haven't always lived up to the hype. That's why he has called for renegotiating NAFTA to better address labor and environmental issues. Because TPP includes Canada and Mexico and improves substantially on NAFTA's shortcomings, it delivers on that promise. TPP learns from past trade agreements, including NAFTA, by upgrading existing standards and setting new high standards that reflect today's economic realities.

HOW TPP UPGRADES NAFTA

- Adopting the highest environmental standards of any trade agreement, including fully enforceable obligations prohibiting some of the most harmful fishery subsidies, creating new tools to combat illegal wildlife trafficking, and improving enforcement of conservation laws.
- Adopting the highest labor standards of any trade agreement, including fully-enforceable requirements to protect the freedom to form unions and bargain collectively, prohibitions against exploitative child labor and forced labor, protections against employment discrimination and requirements for acceptable conditions of work.
- Including the first-ever measures to ensure that state-owned enterprises compete on a commercial basis, and that the advantages SOEs receive from their governments (such as unfair subsidies) do not have an adverse impact on American workers and businesses.
- Setting standards to protect digital freedom, by preserving the free flow of information across borders, and protecting against requirements that force businesses to locate infrastructure in the markets in which they seek to operate.
- Improving protections for 40 million American workers whose jobs depend on innovation.
- Subjecting commitments in the Labor and Environment chapters to dispute settlement–the same enforceability mechanism available for other chapters of the TPP Agreement – including the availability of trade sanctions.[157]

QQ. What is the assessment of the U.S. International Trade Commission of the economic impact of the TPP generally?

The U.S. International Trade Commission conducted an in depth analysis of the economic impact of the TPP. The analysis is contained in an 800 plus page report entitled *Trans-Pacific Partnership Agreement: Likely Impact on the U.S. Economy and on Specific Industry Sectors* (the USITC TPP Report).[158] The Executive Summary gives the following background on the analysis:

> In accordance with section 105(c) of the Bipartisan Congressional Trade Priorities and Accountability Act of 2015, this report, by the U.S. International Trade Commission (Commission or USITC), assesses the likely effects of the Trans-Pacific Partnership Agreement (TPP, TPP Agreement, or the agreement) on the U.S. economy as a whole and on specific industry sectors. It encompasses TPP's impact on the United States' gross

[157] Office of U.S. Trade Representative, *Upgrading NAFTA*, at https://ustr.gov/tpp/#upgrading-nafta (Oct. 17, 2016).
[158] U.S. International Trade Commission, *Trans-Pacific Partnership Agreement: Likely Impact on the U.S. Economy and on Specific Industry Sectors (*May 2016).

domestic product (GDP), exports, and imports; U.S. aggregate employment and employment opportunities; the production, employment, and competitive position of U.S. industries likely to be significantly affected by TPP; and the interests of U.S. consumers. The report also reviews other assessments of TPP's economic effects available in the literature, and discusses areas of consensus and divergence between the Commission's analyses and conclusions and those in the literature reviewed.[159]

The USITC TPP Report provides the following "Overview of Findings, Economy-wide Assessment:"

> The TPP Agreement would affect the trade and investment relationship between the United States and the region in many areas. In addition to the United States, the parties to the agreement are Australia, Brunei Darussalam Brunei [i.e., Brunei], Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam. Together, these countries accounted for 36 percent of global GDP in 2014. The United States already has FTAs in force with Australia, Canada, Chile, Mexico, Peru, and Singapore. The agreement would influence bilateral trade in goods and services, rules governing trade and investment, and the regulatory environment facing U.S. exports to the region. The overall impact of the TPP Agreement would be small as a percentage of the overall size of the U.S. economy; it would be stronger with respect to countries with which the United States does not already have a free trade agreement (FTA) in force: Brunei, Japan, Malaysia, New Zealand, and Vietnam.
>
> The quantitative assessment in this report estimates the economic effects of TPP provisions related to tariffs and tariff-rate quotas; selected nontariff measures affecting trade in goods and cross-border trade in services; and restrictions affecting foreign investment, compared to a baseline estimate of economic growth in the absence of the TPP Agreement. . . .
>
> The Commission estimates that by 2032, U.S. real GDP would be $42.7 billion (or 0.15 percent) higher than a baseline scenario that reflects expected global economic conditions without TPP. Real income, a measure of economic welfare that measures consumers' purchasing power, would be $57.3 billion higher (or 0.23 percent) over the same time period. Employment would be 0.07 percent higher, or close to 128,000 full-time equivalents. These gains would be slightly higher after 30 years (that is, 2047), when all provisions of the agreement would be in force. By 2047, real GDP would rise by $67 billion (0.18 percent); real income, by $82.5 billion (0.28 percent); and employment, by 0.09 percent, or nearly 174,000 full-time equivalents, compared to the baseline.
>
> According to Commission estimates, U.S. exports to TPP partners will grow faster than U.S. exports to the rest of the world. U.S. imports from TPP partners will grow faster than overall U.S. imports, but not as fast as exports to TPP partners. By 2032, under the agreement, total U.S. exports to the TPP parties would be $57.2 billion (5.6 percent) higher than the baseline and U.S. imports from the TPP parties would be $47.5 billion (3.5 percent) over the baseline. Some of this impact would represent trade diversion from other trading partners to TPP parties. According to Commission estimates, U.S. exports to the world would be $27.2 billion higher (1.0 percent), while U.S. total imports would be $48.9 billion higher (1.1 percent).[160]

[159] *Id*. at 21.
[160] *Id*. at 21-22.

RR. What is the assessment of the U.S. International Trade Commission of the impact of the TPP on the labor market?

The USITC TPP Report provides the following assessment of the impact of the TPP on the U.S. labor market:

> Economists, academics, and policy makers debate the effects of FTAs on the overall U.S. labor market. Some maintain that FTAs have a negligible effect on aggregate employment and a positive, yet small, effect on wages. Others express concern that FTAs cause declines in wages and employment, especially over the short run, and increased income inequality that persists over time. . . .
>
> Economic theory suggests that trade liberalization can affect labor markets in complicated ways. FTAs remove barriers to cross-border trade and investment and increase economic integration between signatory countries, which shifts production patterns in those countries. The result is a shift in labor demand between industries within each country. In the short term, this shift in labor demand is likely to be reflected more in changes in wages and at least temporary job loss, as workers transition from import-competing sectors that are contracting into exporting industries that are expanding and paying higher wages as demand for workers increases. In the long run, aggregate employment moves toward full employment, as the transition to a new equilibrium moves toward completion, but the effects on different types of workers in certain industries can persist. The speed and economic cost of the transition can be affected by policies in place to compensate displaced workers and to ease their transitions into new jobs for example, through retraining. Aggregate employment could also change such that some workers may be encouraged to enter or exit the labor force, or the number of hours worked by existing workers may increase or decrease. . . .
>
> By 2032, the Commission estimates that TPP would increase employment in the United States by about 128,000 full-time equivalent jobs, and increase the real wage rate by about 0.19 percent. In percentage terms, the rise in the wages of unskilled workers would be similar to the rise for skilled workers.[161]

SS. What is President Obama's argument in favor of the TPP?

In support of the TPP, the White House website says: (1) "Jobs supported by U.S. exports pay up to 18% more on average than other jobs;" (2) "U.S. exports supported 11.7 million American jobs in 2014;" and (3) the TPP "eliminates over 18,000 taxes that various countries put on U.S. goods and services." The website also makes the following argument in favor of the TPP:

> America's trade policy may seem remote and technical, but it has a significant impact on the strength of our economy and the lives of millions of Americans. If the businesses you buy from everyday also sell their products to customers abroad, they are more likely to expand and support jobs here at home.
>
> Why is that? Ninety-five percent of the world's consumers live outside our borders. Our Made-in-America products and services are in demand, making American exports a vital pillar of our 21st century economy. In fact, exports played an indispensable role in America's resurgence from the Great Recession. So, when the rules are fair, Americans can out-compete anyone in the world.

[161] *Id*. at 88-90.

Last year, we broke the record in American exports for the fifth year in a row, selling $2.34 trillion in goods and services abroad. And here's why that's important: The more we sell abroad, the more higher-paying jobs we support here at home.

And those jobs tend to pay Americans better, meaning companies that export pay up to 18% more than companies that don't.

But right now, our current trade policy — the status quo — puts our workers and businesses at a disadvantage, with higher costs for American goods, more barriers to trade, and lower standards for workers and the environment abroad than we have at home.

That is why President Obama has concluded negotiating the Trans-Pacific Partnership and will now work with Congress to secure its passage into law. The TPP is a trade agreement with 11 other countries in the Asia-Pacific, including Canada and Mexico that will eliminate over 18,000 taxes various countries put on Made-in-America products.

With the TPP, we can rewrite the rules of trade to benefit America's middle class. Because if we don't, competitors who don't share our values, like China, will step in to fill that void.

That is why the President's trade policy is the best tool we have to ensure that our workers, our businesses, and our values are shaping globalization and the 21st century economy, rather than getting left behind. . . .

Trade policy doesn't just support our country's economy, it can reflect our country's values too.

The President knows that past trade deals haven't always lived up to the hype. That is why he fought for the high standards embodied in this trade agreement that will upgrade our existing agreements to reflect our American values.

Under the TPP, tough, fully-enforceable standards will protect workers' rights and the environment for the first time in history.

TT. What is the position of the Mercatus Center, a right leaning organization, on the TPP?

Daniel Griswold, a Fellow at the Mercatus Center at George Mason University, a right leaning organization, has set out a strong argument in support of the TPP and against the opposition to it of both Senator Clinton and Mr. Trump. He argues:

Like most trade agreements, TPP is a mixed bag of real trade liberalization alongside exemptions, long phase outs, and extraneous non-trade issues. But as a package, the agreement will reduce government barriers to commerce, delivering real benefits for the U.S. economy and U.S. foreign-policy interests.

The Trans-Pacific Partnership is a sweeping trade pact negotiated by the Obama administration with 11 U.S. trading partners on both sides of the Pacific. It includes six countries that have already signed free-trade agreements with the United States—Canada, Mexico, Peru, Chile, Australia, and Singapore—and five that would be new FTA partners—New Zealand, Brunei Darussalam, Malaysia, Vietnam, and Japan.

TPP would eliminate 18,000 tariffs now imposed on U.S. exports to other TPP countries. Nearly 90 percent of those duties would go to zero upon enactment, and nearly all would be eliminated within 16 years. U.S. duties would also be phased out almost

completely, with the steepest reduction on imported apparel and footwear, delivering benefits directly to low-income U.S. households.

The agreement would be especially beneficial to small and medium-sized enterprises. The agreement contains an important chapter on electronic commerce that prohibits imposing customs duties on electronic transmissions. It prohibits TPP countries from requiring the "localization" of data servers as a condition for doing business in their territory, and prohibits requiring the transfer of source code. It also enhances competition among express carriers, a service especially important to SMEs.

In a May 2016 analysis of TPP, the U.S. International Trade Commission determined that it would boost U.S. two-way trade, economic output, household incomes, and employment.

Beyond the economic effect, TPP will deepen our geo-strategic relationships in East Asia. The agreement will set the rules for commerce that reflect our values as a nation—openness, competition, respect for private property and the rule of law. If Congress or the next president rejects TPP, China will be ready to fill the vacuum with its own brand of economic leadership.[162]

UU. What is the position of the Chicago Tribune, a left leaning paper, on the TPP?

In an editorial in the Chicago Tribune, a fairly liberal paper, gave its strong support for the TPP for the following reasons:

[I]nternational trade and investment already are the reality. In the global economy, companies and countries specialize in making the most valuable products they can and buying the rest. Illinois companies manufacture sophisticated goods and Illinois farms grow crops sold all over the world. . . .

There is no need to reverse these economic trends, and they shouldn't be reversed. TPP will be good for Illinois because the best way to improve the American standard of living is to support the competitiveness of American businesses. Conversely, American consumers enjoy the benefits of less expensive goods from overseas. Part of the equation is using trade deals to secure and protect new markets for American products. That's what TPP will do.

The folly of [opposing the TPP] is exemplified by Trump's campaign promise to get Apple to bring production of the iPhone home in order to create more American jobs. Setting aside the fact that presidents don't control business decisions, assembling iPhones in the United States isn't going to happen. Making the phones here would add $50 to $100 to the cost of each one, which would drive consumers to Apple's competitors. That likely underestimates the cost by multiples because reshoring Apple production would be nearly impossible: China's factories with their low-cost workforce are so vast and flexible that no American plant could compete.

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[162] Daniel Griswold, *Hillary Agrees With Donald On TPP—And Why They Are Both Wrong*, Mercatus Center at George Mason University, (Aug 11, 2016), at https://madabouttrade.com/hillary-agrees-with-donald-on-tpp-and-why-they-are-both-wrong-b5712407f7ac#.ml9rx1kox.

The late Steve Jobs once was asked by President Barack Obama what it would take for Apple to make iPhones in the United States. Jobs' reply: . . . "Those jobs aren't coming back[.]"[163]

VV. What is the position of the Economic Policy Institute, a left leaning organization, on the TPP, NAFTA and trade generally?

Robert Scott of the Economic Policy Institute (EPI), a left leaning organization, explains that the EPI opposes the TPP and other trade liberalizations on the following grounds:

> [G]rowing imports of goods from low-wage, less-developed countries, which nearly tripled from 2.9 percent of GDP in 1989 to 8.4 percent in 2011, reduced the wages of the typical non-college educated worker in 2011 by "5.5 percent, or by roughly $1,800—for a full-time, full year worker earning the average wage for workers without a four-year college degree[.]" .
>
> Overall, there are nearly 100 million American workers without a 4-year degree. The wage losses suffered by this group amount to roughly a full percentage point of GDP—about $180 billion per year. Workers without a 4-year degree constitute a bit less than 70 percent of the overall workforce, but three-quarters of black workers (75.5 percent) and more than four-fifths (85.0 percent) of Hispanic workers do not have a 4-year degree. While educational attainment levels for blacks and Hispanics are rising, differences remain.
>
> The Trans-Pacific Partnership would hurt black and Hispanic workers even more than white workers[.] . . .
>
> Six of the twelve members of the TPP (Malaysia, Mexico, Peru, Vietnam, Chile, and Brunei) are low-wage, developing countries, and if the TPP leads to expanding trade with these countries it will contribute to a continuing growth of imports and growing downward pressure on the wages of non-college educated workers. This deal would be especially harmful to black and Hispanic workers, who already suffer higher unemployment and lower wages than whites.[164]

WW. What is the Economic Policy Institute's position on the role of currency manipulation in contributing to our trade deficit?

1. First, what is currency manipulation and who are the currency manipulators?

Robert Scott of the Economic Policy Institute (EPI) describes currency manipulation as follows:

> Currency manipulation acts like an artificial subsidy to the host country's exports (making their goods artificially less expensive) and as a tax on all U.S. exports, which

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[163] Editorial, *Why global trade will endure: Clinton, Trump and the folly of genie-stuffing*, Chicago Tribune, (Oct 17, 2016), at http://www.chicagotribune.com/news/opinion/editorials/ct-trade-brexit-trump-tpp-clinton-edit-1018-jm-20161017-story.html.

[164] Robert E. Scott, *The Trans-Pacific Partnership Would Hurt Black and Hispanic Workers Even More Than White Workers*, Economic Policy Institute (Sept 8, 2016).

undercuts the competitiveness of U.S. products, especially manufactured goods (which make up 70 percent of all U.S. goods exports[.] . . .

Currency manipulators are countries that run large, persistent trade surpluses with the world, and that have intervened significantly in currency markets, or taken equivalent steps, to lower the value of their currencies to levels that support those trade surpluses. Governments manipulate currency by buying up foreign assets denominated in the currencies of other countries (such as U.S. Treasuries) and other assets to increase demand for the other countries' currency (for example, the dollar) relative to their currency. This process has had a bigger impact on the United States than on any other trading nation. By making the dollar more expensive, such manipulation makes U.S. goods more expensive and competing countries' products cheaper. Currency misalignment occurs when private investors (not the government) buy up Treasuries and other assets.[165]

2. Second, how does currency manipulation contribute to the trade deficit?

Robert Scott of the Economic Policy Institute (EPI) discusses as follows the relationship between currency manipulation and the trade deficit the U.S. currently faces:

The most significant cause of growing U.S. trade deficits is currency manipulation and misalignment by China and about 20 other countries, primarily in Asia. These countries' governments have purchased trillions of dollars of foreign assets over the past 15 years, which has bid up the price of the U.S. dollar. This inflated dollar value has increased the price of U.S. exports in every country where we compete with currency manipulators, and it acts like a subsidy to all our competitors' exports. Growing U.S. trade deficits are largely responsible for the loss of 5 million manufacturing jobs in the United States between January 2000 and December 2014[.][166]

3. Third, how could the U.S. take measures against currency manipulation?

Robert Scott of the Economic Policy Institute (EPI) discusses as follows measures that have been proposed for addressing currency manipulation:

Over the past 10 years, there have been numerous attempts in Congress to enact policies to end currency manipulation, which is illegal under the rules of the International Monetary Fund and the World Trade Organization (though these rules have never been enforced). Proposed actions against currency manipulation have included efforts to include "enforceable restrictions" on currency manipulation in the TPP. But the TPP does not include such rules (which, given the stakes of this issue is reason enough to oppose the entire deal). There have also been calls for the Treasury and the president to do more to name and penalize currency manipulators, under rules established in the Trade Act of 1988. These rules were strengthened under the Bennet Amendment to the Customs bill, passed this year, but at best, these changes will only improve the process by which Treasury monitors currency manipulation. New tools are needed to realign the dollar.

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[165] *Id*.
[166] *Id*.

> The most effective tools available are those that would directly intervene in currency markets. Several economists have recommended ways to do this. Fred Bergsten and Joe Gagnon of the Peterson Institute for International Economics have proposed that the United States and other deficit countries engage in countervailing currency intervention (CCI) by buying up large amounts of foreign assets denominated in the currencies of the surplus countries (Bergsten and Gagnon 2012). John Hansen (2016), another distinguished economist, has proposed the imposition of an adjustable "market access charge," a tax or fee on all capital inflows that would reduce the demand for dollar-denominated assets and hence the value of the currency. By revaluing the currencies of surplus countries, the U.S. trade deficit could be reduced by between $200 billion and $500 billion dollars, raising demand for U.S. exports (which are dominated by manufactured goods). (Rebalancing the dollar would also help exports in the services and agriculture sectors.)[167]

XX. What is Secretary Clinton's position on the TPP, NAFTA, and trade generally?

NAFTA became law under President Bill Clinton, and while Secretary Clinton was Secretary of State, she supported the TPP, which the Obama Administration still supports. Thus both NAFTA and the TPP originated under Democratic administrations.

Notwithstanding her prior support of the TPP, Secretary Clinton now is opposed to it. For example in a speech in Warren Michigan on August 11, 2016, she said:

> Well, let's start with this: It's true that too often, past trade deals have been sold to the American people with rosy scenarios that did not pan out. Those promises now ring hollow in many communities across Michigan and our country that have seen factories close and jobs disappear.
>
> Too many companies lobbied for trade deals so they could sell products abroad but then they instead moved abroad and sold back into the United States.
>
> It is also true that China and other countries have gamed the system for too long.
>
> Enforcement – particularly during the Bush administration – has been too lax.
>
> Investments at home that would make us more competitive have been completely blocked in Congress. And American workers and communities have paid the price.
>
> But the answer is not to rant and rave – or cut ourselves off from the world. That would end up killing even more jobs. The answer is to finally make trade work for us, not against us.
>
> So my message to every worker in Michigan and across America is this: I will stop any trade deal that kills jobs or holds down wages – including the Trans-Pacific Partnership. I oppose it now, I'll oppose it after the election, and I'll oppose it as President.
>
> As a Senator from New York, I fought to defend New York's manufacturers and steel-makers from unfair Chinese trading practices. And I opposed the only multilateral trade deal that came before the Senate while I was there, because it didn't meet my high bar.
>
> As Secretary of State, I fought hard for American businesses to get a fair shot around the world and to stop underhanded trading practices like currency manipulation and the theft of intellectual property.

[167] *Id.*

So as President, I will stand up to China and anyone else who tries to take advantage of American workers and companies. And I'm going to ramp up enforcement by appointing, for the first time, a chief trade prosecutor, I will triple the number of enforcement officers, and when countries break the rules, we won't hesitate to impose targeted tariffs.

Now Mr. Trump may talk a big game on trade, but his approach is based on fear, not strength. Fear that we can't compete with the rest of the world even when the rules are fair. Fear that our country has no choice but to hide behind walls. . . .

Right now, thousands of Michigan companies are exporting billions of dollars of products around the world. We want them to sell even more, and create more jobs here at home. But corporations should not abandon profitable operations here in the United States to move abroad, just to give shareholders a quicker return, CEOs a bigger bonus, and unions a weaker hand to play.

Now, before he tweets about how he's really one who will put 'America First' in trade, let's remember where Trump makes many of his own products. Because it sure is not America.

He's made Trump ties in China and Trump suits in Mexico instead of here in Michigan. He keeps saying it's not possible to make these things in America anymore, and that's just wrong.

So we created a website — hillaryclinton.com/make-it-here — on it we list a hundred places across the United States that already producing similar goods.
Now one positive thing Trump could do to make America great again is actually make great things in America again.

YY. What is Mr. Trump's position on NAFTA, the TPP, and trade generally?

Mr. Trump has been opposed to what he refers to as bad trade deals. For example in an August 8, 2016 speech in Detroit he said:

One of the most important reforms of all is trade reform.

As Bernie Sanders has said, Hillary Clinton has bad judgment. We've seen this bad judgment overseas, in Libya, Iraq, and Syria. . . . But we've also seen the terrible Obama-Clinton judgment right here in Detroit.

Hillary Clinton has supported the trade deals stripping this city, and this country, of its jobs and wealth.

She supported Bill Clinton's NAFTA, she supported China's entrance into the World Trade Organization, she supported the job-killing trade deal with South Korea, and she supports the Trans-Pacific Partnership.

Let's talk about South Korea for a moment, because it so perfectly illustrates the broken promises that have hurt so many American workers.

President Obama, and the usual so-called experts who've been wrong about every trade deal for decades, predicted that the trade deal with South Korea would increase our exports to South Korea by more than $10 billion—resulting in some 70,000 jobs.
Like Hillary Clinton's broken promises to New York, these pledges all turned out to be false. Instead of creating 70,000 jobs, it has killed nearly 100,000, according to the Economic Policy Institute. Our exports to South Korea haven't increased at all, but their imports to us have surged more than $15 billion—more than doubling our trade deficit with that country.

The next betrayal will be the Trans-Pacific Partnership. Hillary Clinton's closest friend, Terry McAuliffe, confirmed what I have said on this from the beginning: if sent to the Oval Office, Hillary Clinton will enact the TPP. Guaranteed. Her donors will make sure of it.

A vote for Hillary Clinton is a vote for TPP—and it's also a vote for NAFTA. Our annual trade deficit in goods with Mexico has risen from close to zero in 1993 to almost $60 billion. Our total trade deficit in goods hit nearly $800 billion last year.
This is a strike at the heart of Michigan, and our nation as a whole. According to the Bureau of Labor Statistics, before NAFTA went into effect, there were 285,000 auto workers in Michigan. Today, that number is only 160,000. . . .

Hillary Clinton's Trans-Pacific Partnership (TPP) will be an even bigger disaster for the auto industry. In fact, Ford Motor Company has announced its opposition to the deal.

According to the Economic Policy Institute, the U.S. trade deficit with the proposed TPP member countries cost over 1 million manufacturing jobs in 2015.
By far the biggest losses occurred in motor vehicles and parts, which lost nearly 740,000 manufacturing jobs.

Michigan ranks first for jobs lost as a share of state workforce due to the trade deficit with TPP members.

Just imagine how many more automobile jobs will be lost if the TPP is actually approved. That is why I have announced we will withdraw from the deal before that can ever happen. Hillary Clinton will never withdraw from the TPP. She is bought, controlled and paid-for by her donors and special interests.

Because my only interest is the American people, I have previously laid out a detailed 7-point plan for trade reform, available on my website. It includes strong protections against currency manipulation, tariffs against any countries that cheat by unfairly subsidizing their goods, and it includes a renegotiation of NAFTA. If we don't get a better deal, we will walk away. At the center of my plan is trade enforcement with China. This alone could return millions of jobs into our economy.

China is responsible for nearly half of our entire trade deficit. They break the rules in every way imaginable. China engages in illegal export subsidies, prohibited currency manipulation, and rampant theft of intellectual property. They also have no real environmental or labor protections, further undercutting American workers.
Just enforcing intellectual property rules alone could save millions of American jobs. According to the U.S. International Trade Commission, improved protection of America's intellectual property in China would produce more than 2 million more jobs right here in the United States. Add to that the saved jobs from cracking down on currency cheating and product dumping, and we will bring trillions of dollars in new wealth and wages back to the United States.

Trade has big benefits, and I am in favor of trade. But I want great trade deals for our country that create more jobs and higher wages for American workers. Isolation is not an option, only great and well-crafted trade deals are.

In a speech in Gettysburg, Pa on October 22, 2016 he reiterated his objection to trade deals. CNN reports that there he

vowed again to begin renegotiating the North American Free Trade Agreement of the 90s and announce his intention to withdraw from the Trans-Pacific Partnership and promised

to take a tough approach to countries like China that he believes are abusing free trade laws.[168]

ZZ. What is my take on NAFTA, the TPP, and trade generally?

As a general matter, for the economic reasons discussed above, I strongly support trade. Further, it seems to me that while there are obvious losers with NAFTA and there will be losers with the TPP, on balance NAFTA, the TPP, and other trade liberalization measures are positive for the U.S. and its trading partners.

That said, I am troubled by the possibility that the TPP could be approved after the election, when both Secretary Clinton and Mr. Trump have expressed strong views against it. This is particularly so if Secretary Clinton is elected because it appears that the principal proponents of the TPP are Republicans. As indicated by the following discussion in a publication of the Economic Policy Institute, this was also the case with the approval of NAFTA:

> Two-thirds of the votes needed to pass NAFTA in 1993 were provided by members of Trump's own Republican Party. In fact, NAFTA was Ronald Reagan's idea, and was first introduced and negotiated by President George H. W. Bush. More recently, 85 percent of Democrats in the House and 70 percent in the Senate opposed giving the president Fast Track authority for the TPP and other trade deals, while 87 percent of Senate Republicans gave final approval to the Fast Track bill[.] It was Republicans in Congress who helped these trade deals go forward. And it was Republican leaders who blocked legislation that would have given the Commerce Department tools to tackle the currency manipulation that is behind the loss of jobs to exporting nations that break the rules.[169]

Also, the adoption or rejection of the TPP should have only a modest impact on the broader U.S. economy. This point is reflected in an analysis of Secretary Clinton's economic policies by Moody's Analytics, which, for the following reason, excluded the TPP from its analysis:

> And as long as her ambivalence over greater global trade, as reflected in her opposition to the Trans-Pacific Partnership trade deal, does not intensify, it too should mean little for the economy over the 10-year horizon of this analysis.[170]

Further, as the analysis discussed above of the Economic Policy Institute points out, non-college educated workers suffer most from recent trade liberalization measures like the TPP. It seems that most of those voters, both Democrat and Republican, oppose trade deals, and given that strong opposition, together with the opposition of both Secretary Clinton and Mr. Trump, it would be prudent for the Congress not to ratify TPP during the lame duck session after the election and before the inauguration. Further, without respect to who is elected president, efforts should be made towards building a broad bipartisan consensus in favor of trade deals. It would seem that a more robust and effective Trade Adjustment Assistance program could more effectively address the legitimate needs of those workers who are harmed by the TPP or other trade deals. Such action could help to build a solid political coalition in favor of trade liberalizations.

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[168] Jeremy Diamond, *Trump makes 'closing argument,' again attacks accusers*, CNN (Oct. 22, 2016), at http://www.cnn.com/2016/10/21/politics/donald-trump-gettysburg-speech-first-100-days/.
[169] Robert E. Scott, *Currency Manipulation*, *infra* Bibliography.
[170] Moody's, *Macroeconomics of Secretary Clinton's Economic Policies*, infra Bibliography, at 2.

AAA. How can international economic considerations be tracked?

Several sources address international considerations, including the following. As discussed above, the Bureau of Economic Analysis (BEA) of the Department of Commerce issues a quarterly report on *U.S. International Transactions*. This report provides information on the current account and the financial account. The BEA also periodically issues a report on *U.S. International Trade In Goods And Services*, which gives detailed information on the balance of trade in goods and services between the U.S. and the rest of the world. The BEA also publishes a report on the *U.S. International Investment Position at Yearend*, which focuses on the current levels of inbound and outbound foreign direct investment. These items are available on the BEA's website at http://www.bea.doc.gov. Also, the Fed's semi-annual reports on *Monetary Policy*, the annual *Economic Reports of the President*, and the CBO's *Budget and Economic Outlook* provide analyses of the international sector.