

Introductory Microeconomics
2016 – 17

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Introduction

This book includes the lecture notes that I have written and refined over years of teaching the microeconomics principles class. What you have in this book is exactly what I use in the lectures. Also included are study aids that include example test questions and practice sets over the material.

Students may choose to use this outline in different ways. You may find it helpful to have it with you during the lectures. Or you may wish to use it to review after lectures, or in preparing for exams. My goal is to provide an overview of the lecture material, so that when you study you can have a concise exposition of what we covered. You should keep in mind that this is an *outline*, and key details of the lecture material are omitted. Attending lectures and taking good notes are both critical for succeeding in the course.

As a companion to this outline, students are encouraged to get a standard Principles of Microeconomics textbook. Most textbooks are similar in their coverage, and there are few differences between various editions of textbooks. Older editions are much cheaper. Please ask if you would like a recommendation.

This material was revised in August 2016. Data on unemployment and taxes, and examples that we will discuss in the class, have all been updated. There are a number of footnoted sources, and all URLs were working as of 8/3/16.

My hope is that you find this to be a good alternative to a traditional textbook. Receipts from the book are used to support my other professorial duties, including research and academic conference expenses. I also contribute a portion to Omicron Delta Epsilon, the economics honor society at the College.

I am in the process of expanding this outline to create a textbook. If you find any typos, or have any suggestions for improvements, please let me know.

I hope you enjoy the class and this book. Good luck!

Doug Walker
August 5, 2016

LECTURE A: OVERVIEW OF ECONOMICS

The first section of the course is a general introduction to “the economic way of thinking.” It is important to realize several things about economics from the outset. First, economics is a *social science*, and economic theory is the foundation for most business disciplines. Second, economics is more a method of analysis or thinking, than “job training” or the study of specific “topics” like the economy, the stock market, or money.

Economists study a variety of issues, including marriage and divorce, drug addiction, prostitution, environmental decay, political economy, and government policy. For example, your professor almost exclusively studies the economic and social impacts of legalized casino gambling. Almost any social phenomenon can be studied from an economics perspective.

Economics is the only social science for which a Nobel Prize is awarded. More important than any of the specific topics discussed, an understanding of economic theory helps you to develop critical thinking skills with which you may analyze a world of interesting topics.

Hopefully you already have some motivation to learn about the economy. The political and economic climate during the past few years has been interesting: real estate bubble; financial system collapse; health insurance reform; car company bailouts; record budget deficits; high unemployment; slow recovery from the 2007-09 recession, etc. Recent economic events will likely affect you the rest of your life, and your generation will bear the costs and benefits of our current political decisions.

A good understanding of microeconomics will help you after college when you become a taxpayer and begin caring more about what politicians do. You will be better informed and able to analyze the likely economic impacts of government policies.

There is no obvious organization to this first lecture; the purpose here is to expose you to a number of different issues that help to form the foundation of economic theory. The first thing you should learn in the course is that “economics” is all around you. Every decision that you make is an economic decision, whether or not it involves money.

- **The (Macro) Economy Today**

Before getting into the substance of the material for this course (microeconomics), it is worth taking some time to learn about what has been happening in the macro-economy during the past few years. As you should be aware, the U.S. went through a serious recession that began in Dec. 2007, just before President Obama took office. The recession “officially” ended in June 2009. However, even six years after it ended, some key economic variables were still not back to pre-recession levels. It has been a slow, weak economic recovery.

Recession is a technical term meaning negative economic growth (or negative gross domestic product [GDP] growth) for 6 months or longer. Usually increasing unemployment and falling prices are seen during recessions.

The slow recovery has worried many observers, especially since policies enacted by the federal government have seemed ineffective in helping the economy to grow.

The U.S. inflation-adjusted GDP growth rate since 2000 is shown in Figure A.1.

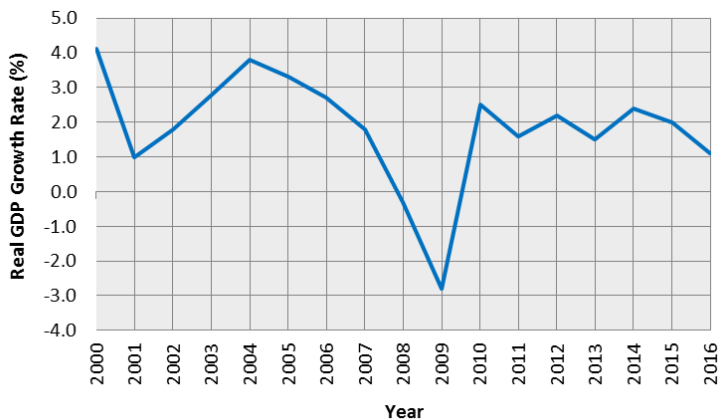


Figure A.1. U.S. real GDP growth rate, 2000-16

Data source: Bureau of Economic Analysis. The 2016 rate shown of 1% is the average rate for the first two quarters.

During the recession the U.S. unemployment rate peaked at 10.0% in October 2009. It has since fallen to 4.7%, as of May 2016. South

Carolina’s unemployment rate has been relatively high, peaking at 11.7% in December 2009. By May 2016 it had fallen to 5.6%.

Figure A.2 shows the U.S. unemployment rate since 2000. Note that the unemployment rate was between 4% and 5% from 2005 through 2007. Economists consider 5% to be a “normal” rate of unemployment.

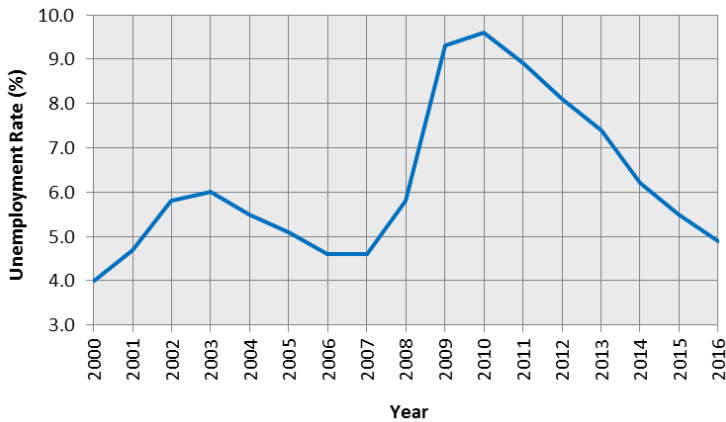


Figure A.2. U.S. unemployment rate, 2000-16

Data source: Bureau of Labor Statistics. The 2016 rate of 4.9% is the average monthly rate through July.

Although the unemployment rate has returned to a “normal” level, economists still worry about the stability of the economy. One reason for concern is that, although the unemployment rate has fallen, so has the “labor force participation rate.” This is the percentage of the population that has or wants a job. This rate has fallen from just over 66% prior to the onset of the 2007 recession, to just under 63% in 2016. This change translates to about 9 million workers dropping out of the workforce. So now, although the unemployment rate looks better, there are lingering concerns about the shrinkage of the workforce and “underemployment” (i.e., people employed in jobs for which they are over-qualified, or they are working less than they would like). The labor force participation rate since 2000 is shown in Figure A.3.

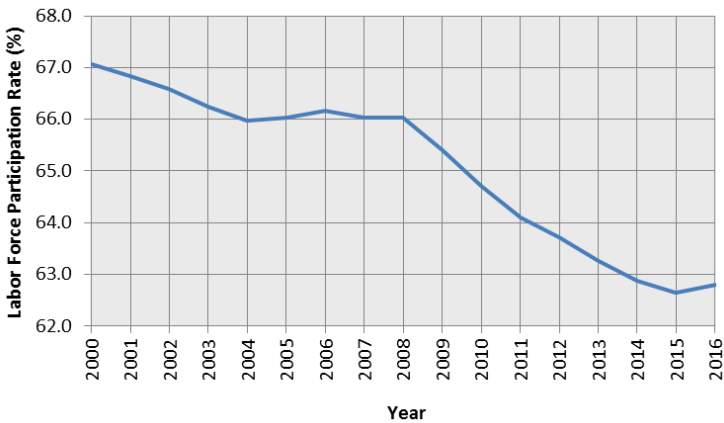


Figure A.3. U.S. labor force participation rate, 2000-16

Data source: Bureau of Labor Statistics. The 2016 rate of 62.8 is the monthly average through May.

When the labor force participation rate is shown separately for men and women, however, a slightly different picture is revealed. The rate for men has been steadily declining, from about 79% in 1972 to 69% in 2014. The rate for women increased from 44% in 1972 to 60% in 2000. It has been declining since then to about 57% in 2014.¹

There are other continuing concerns about the state of the economy, mostly stemming from the slowness of the recovery from the 2007-09 recession. This may be due, in part, to uncertainty about the effectiveness of government policies designed to get us out of recession. One of President Obama's highest priorities during his first term was "economic stimulus." This amounts to government borrowing and spending. The theory behind increased government spending is that it will create demand for goods and services. When spending increases, production (GDP) should increase, as unemployment falls. We have been moving that way, but slowly.

The American Recovery and Reinvestment Act (aka "the stimulus plan") was passed in February 2009. However, only 64% of the \$787 billion stimulus money had been spent by mid-2010. The time lag in spending caused the stimulus spending to be less effective than it might

¹ Source: Bureau of Labor Statistics

otherwise have been. There was a lot of debate among politicians and economists over whether such government spending was the right prescription at the time. I was opposed to both the stimulus package, and the \$700 billion bank bailouts, called TARP (Troubled Asset Relief Program). However, other economists argue that the TARP program was absolutely essential and that the stimulus package seemed ineffective because it was not big enough.

Overall, my view is that the effects of government stimulus programs may be more political than economic. For example, the “Cash for Clunkers” program was touted by the media as being a great success. In December 2011, Congressman Barney Frank argued that the program, along with loans to U.S. auto-makers was very effective at turning around the industry.

For an enlightening perspective on the Cash for Clunkers program, do a YouTube search for “Volvo cash for clunkers,” and watch what was done to cars.² It is hard to believe the government actually had a program that destroys valuable cars that some people would have been happy to have.

A more serious problem, in my view, with government programs like the TARP and auto industry loans, is the incentive effects of government bailouts. Why should taxpayers be forced to subsidize people who make bad decisions?³

Overall, my view is that the federal government is not very effective in “fixing” the macro-economy. However, it can have a large impact on which industries and/or firms survive. But such decisions may be corrupt. For example, Solyndra was a company that produced a solar energy technology. It received over \$500 million in loan guarantees from the federal government, under the 2009 American Recovery and Reinvestment Act.⁴ Then in 2011, a few months after paying large bonuses to executives, the company closed and filed for bankruptcy.⁵

² See one example at <http://www.youtube.com/watch?v=waj2KrKYTZo>.

³ For an interesting examination of the financial crisis and bank bailouts, see the 2010 documentary *Inside Job*.

⁴ See <http://articles.latimes.com/2011/sep/20/business/la-fi-solyndra-executives-20110921>.

⁵ See http://www.mercurynews.com/business/ci_19248768.

Critics suggest the Solyndra case is an example of “crony capitalism” that would never have happened in a free market.

One certain result of our recent economic policies is a fast-growing national debt. Each year the federal government spends much more than it brings in from taxes. This is not new with the Obama administration, but spending increased dramatically during the recession. As shown in Figure A.4, the federal budget deficit averaged \$1.3 trillion from 2009-12. The 2017 federal budget includes \$4.1t in spending (\$12,600 per resident) and \$3.6t in taxes, so \$500 billion must be borrowed to fund spending in 2017. This represents \$1,540 of debt per resident.

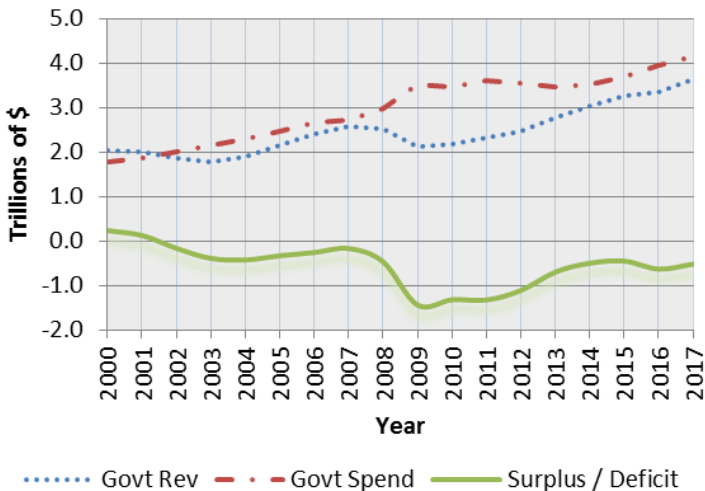


Figure A.4. U.S. federal fiscal trends, 2000-17

Data source: *2016 Economic Report of the President*, Table B-19. Figures for 2016-17 are government projections.

Large budget deficits are a real concern, because the money must eventually be repaid with higher future taxes. Before the Obama administration, Americans used to be concerned with \$400 billion deficits. From 2002-08 the deficit was smaller, only close to \$400 billion during two years, and we actually had a budget surplus under the Clinton administration, from 1999 to 2001. One thing is clear:

Both major political parties enjoy spending other people's money – and they rarely cut spending.⁶

When you add up annual budget deficits, the total is our *national debt*. As of summer 2016, our federal debt is about \$19.4 TRILLION! That's \$59,700 for each U.S. resident (~325 million). Figure A.5 shows that, for the first time ever, our national debt surpassed GDP in 2013. (In Greece, this happened for the first time back in 1994; their 2015 debt:GDP ratio was over 1.75.)

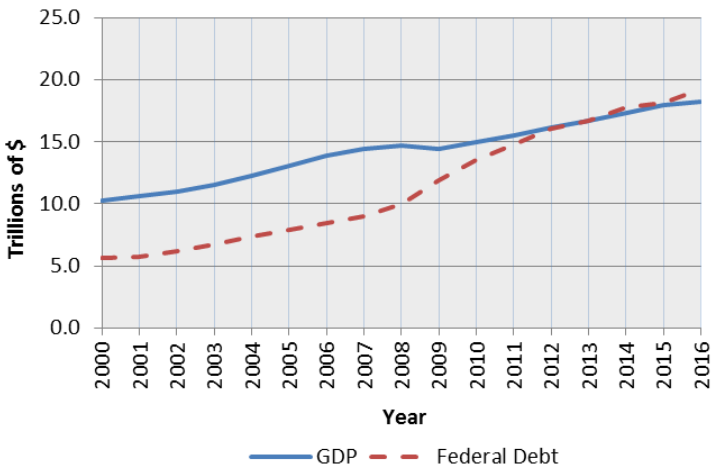


Figure A.5. U.S. GDP and federal government debt, 2000-16

Data source: *2016 Economic Report of the President*, Tables B-2 and B-19. Values for 2016 are based on the first quarter, and are from the St. Louis Fed.

Hopefully after you take this class you will have a much better understanding of how markets are supposed to work. Once you understand how markets work and how government policies affect them, you will be better prepared to consider more macroeconomic issues. It should become clear that government often has less of an effect on the economy than many people think. In particular, the

⁶ In 2009 Obama announced that he'd cut \$100 million from the budget. For an interesting illustration that puts this amount in perspective, see here:

<https://www.youtube.com/watch?v=cWt8hTayupE>

President probably gets more credit and blame than they deserve for the state of the economy. What happens in the economy is the product of billions of decisions by consumers and producers. Government impacts the outcome, but often only at the margin. Yet, regardless of its effectiveness, government is *very expensive*.

- **Scarcity**

- This is the economic problem
 - since we have unlimited wants but limited resources, we must make choices
 - each choice implies a cost – a foregone opportunity – an “opportunity cost”
 - “drive 55, save lives”? what about “drive 125, save time”?
 - coming to this lecture? you could have been doing something else
 - economics is the study of how to allocate scarce resources to make people as happy as possible
 - it applies to individuals, as well as societies
 - the price system will be our major focus, but there are numerous other ways to allocate scarce resources
 - lottery, by force, first-come-first-served
- Do rich people or societies face scarcity?
 - Bill Gates could buy anything he wants, but still he faces scarcity
 - how about the U.S., which is a relatively rich society?
 - when we spend more on one program, there’s less available for others
 - consider the debate over “Obamacare”
 - people were worried that the reform would result in “rationing”
 - it will, but we have always rationed health care (based on what?)

- **Online Reading: Landsburg, “Introduction” and “The Power of Incentives” (Ch. 1)**
 - “People respond to incentives” is one of the most fundamental ideas in economics, especially when discussing government policies
 - consider the car safety mechanism: seatbelts increase the chance of surviving a particular accident, but increase the number of accidents
 - which effect is greater determines whether deaths ↑ or ↓ overall
 - if you can’t believe this, what about the opposite?
 - suppose a spear was mounted on the steering column?
 - if driving is more dangerous, people drive more safely
 - What are some other cases with similar incentive effects?
 - “diet” foods, “light” cigarettes, condoms, etc.
 - Consider economic policies from the recession
 - government bailouts signal to companies, “don’t worry if you have terrible management; taxpayers are there to help you”
 - this is not a good incentive signal to be sending
 - profits and losses serve very important functions in an economy
 - \$4.00 gas (July 2008) was encouraging people to get rid of SUVs, conserve gas

- **Online Reading: Hazlitt, “The Lesson” (Ch. 1) and “The Broken Window” (Ch. 2)**
 - “The Lesson”
 - we should focus on both the short and long run effects, and on all affected parties
 - don’t just look at the short run effects on beneficiaries

- secondary (and unintended) consequences are very important to try to understand
 - “The Broken Window”
 - the unseen is just as important as the seen
 - the broken window fallacy, e.g., “war”
- **Economic Analysis: The Basics**
 - Economics is a social science, and it uses the scientific method
 - we develop and test hypotheses about how different variables are related
 - often we’re interested in how people will react to some change in incentives
 - Ex: what will happen to the consumption of gasoline if prices rise?
 - Ex: what will happen to the popularity of lottery tickets if a casino opens?
 - Theories, models, and assumptions are important components of economic analysis
 - Theories – ideas about how the world works, or an expectation about the relationship between variables
 - Ex: what to do if your TV doesn’t turn on
 - Ex: how people react to higher prices
 - Ex: lottery and casinos are substitutes
 - Models are simplifications of reality
 - we develop “economic models” to test theories about behavior
 - consider a road map: it’s a model that is useful precisely because it ignores most aspects of reality – ignore irrelevant information
 - in modeling gambling behavior, we don’t care about soft drink prices, etc.
 - Assumptions are starting points for developing models to test theories – parameters of the model

- two key assumptions used in all in economic models: rational behavior; *ceteris paribus*
- rational behavior – acting in your self-interest
 - people compare expected costs and benefits (EC, EB) of a particular action, and act only if $EB > EC$; otherwise they're not rational
 - this doesn't rule out altruistic behavior, and it doesn't pertain only to monetary transactions
 - Ex: students coming to lecture (long-run benefits?)
 - Ex: giving money to a church/charity (self-interested, but hardly selfish)
- *ceteris paribus* – “holding everything else constant”
 - you must isolate changes because the world is so complicated
 - with an understanding of the important individual determinants of behavior, we can better explain and predict behavior
 - Ex: considering the impact of introducing casinos on lottery sales, assume no change in people's incomes
- By using theories, models, and assumptions, economic analysis aims to explain and predict behavior
 - the most interesting applications are to public policy changes
- **Examples of “Rationality Riddles”**
 - You should assume people are rational and know what they're doing; don't just assume they're stupid
 - Ex: why do stores practice 99¢ pricing? (and why do people do it for cars and real estate?)



Emerald Cut 11.85ct
IF Clarity, G Color Diamond
Platinum Solitaire Ring -
\$819,999.99

Features: Only One Available,
IGI Value: \$1,258,545

Figure A.6. Costco illustrates 99¢ pricing

Source: Costco.com, 2/19/16.

- Ex: Why have companies advertised that their product is outdated or poor quality? (Buick, Domino's Pizza)
- Ex: Why do some restaurants include tax in their prices (Warehouse), but others don't (Republic)?

<p style="text-align: center;">WE ARE WAREHOUSE Join us on Sundays for Brunch 11am-4pm!</p> <p>Server: Left Bar 12/14/2015 B4 Cp1/1 9:08 PM Guests: 1</p> <p style="text-align: right;">#30070</p> <p>E1 Conquistador 8.50 Employees CK 8.50</p> <p>Subtotal 17.00 Tax 0.00</p> <p>Total 17.00</p> <p>Balance Due 17.00</p> <p style="text-align: center;">THANK YOU! HAVE YOUR EVENT AT WAREHOUSE! Email team@wearewarehouse.com (843) 202-0712 wearewarehouse.com @team_warehouse</p>	<p style="text-align: center;">Republic Garden & Lounge 843-724-7400</p> <p>Server: Catelen 08/25/2015 Cashier: Left Bar Out Tbl 23/1 6:14 PM Guests: 1</p> <p style="text-align: right;">#10006</p> <p>Herradura Blanco 5.00 C. Champagne 6.50</p> <p>Subtotal 11.50 Tax 1.46</p> <p>Total 12.96</p> <p>Balance Due 12.96</p> <p style="text-align: center;">Thank you. Please return with this receipt in the next 90 days and receive 20% off your next tab. Happy hour and bottle service not included.</p>
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Figure A.7. Receipts from Warehouse, which includes taxes in the prices, and Republic, which does not

- Ex: Why do bars put prices on menus for wine, but not beer?

- **Economic Analysis: The Basics (continued)**
 - There are two major branches of economics
 - micro and macro
 - Two types of statement
 - positive statements
 - can be tested and shown to be right or wrong
 - Ex: the unemployment rate is currently 10%
 - normative statements
 - are beliefs/opinions about what “should be” or what’s “fair”
 - economists often disagree on what the proper role of government is
 - Ex: government should do more to lower unemployment
 - “Economic efficiency” is a major goal in economics
 - technological efficiency means producing the most possible given the inputs being used
 - allocative efficiency means we’re producing what consumers want
 - Adam Smith’s “invisible hand” concept – that individuals’ behavior when acting in their own self-interest is often consistent with the “public good”
 - this is a very important insight that you should gain through learning about how markets work – a primary goal of this class

- **Opportunity Cost**
 - This may be the most important idea in economics!
 - Defined as the highest valued-alternative use of resources foregone in making any choice
 - “Cost” in economics means full opportunity cost
 - “explicit costs” are like accounting costs (\$)
 - “implicit costs” are the value of non-\$ resources
 - Ex: Cru Café for dinner (parking, wait time, \$)
 - Ex: coming to the lecture

- Ex: getting a college degree
 - is it rational to be in college if you don't expect to increase your salary?
 - Ex: why do salaries vary so much for professors of the same rank but of different disciplines?
 - from CofC in 2014, faculty salaries in different disciplines⁷: English, Teacher Ed, Philosophy, Anthropology (\$60K); French (\$52K), Accounting/Finance (\$125-135K); Economics (\$85K)
 - faculty salaries may reflect what graduates' relative salaries are likely to be
- **Sunk Costs**
 - These are costs that should be ignored – they are beyond recovery at the moment of decision
 - Ex: whether to finish your college degree
 - Ex: road trip to the beach in Florida
 - Ex: chasing losses at a casino
 - Rational decisions are made at “the margin,” looking into the future, not the past
- **Modeling Opportunity Cost**
 - Opportunity costs can be illustrated using a production possibilities frontier (PPF) model
 - A PPF illustrates the maximum production quantities, given the following assumptions:
 - a single input (labor)
 - no unemployment of inputs
 - technology is fixed

⁷ Data source: <http://www.admin.sc.gov/accountability-portal/state-salaries>. College of Charleston is listed as “University of Charleston.” USC’s football coach Will Muschamp earns the top salary in 2016 in the state, \$1.1 million. Interestingly, the highest 8 salaries in the state are paid to athletics coaches and directors at USC, for a total of \$4.3 million.

- two “goods” are produced; people like both
- Consider an example of how you could allocate 4 hours of time, assuming you can’t “split” hours
 - suppose the data in Table A.1 represent the “output” you’ll receive from working (W) and studying (S) different combinations of task for 4 hrs.

Table A.1. Time allocation for 4 hours

Hours Spent	Income (\$)	Grade (%)
4W, 0S	\$36	60%
3W, 1S	\$27	70%
2W, 2S	\$18	80%
1W, 3S	\$9	90%
0W, 4S	\$0	100%

- we draw a PPF to illustrate the data from Table A.1

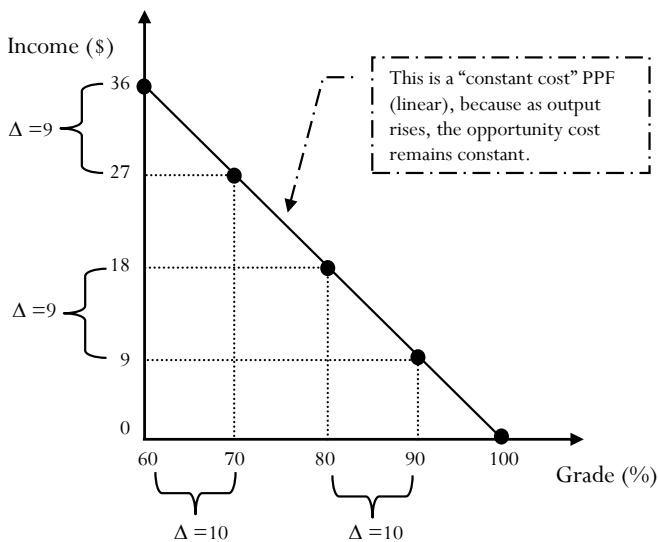


Figure A.8. PPF for a student's 4 hours of time