

Economists Have No Defense: A Critical Review of National Defense in Economics Textbooks*

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Abstract

National defense is *the* textbook example of a public good. To understand how economists present public goods to undergraduates, we analyze fifty texts from across three widely taught undergraduate economics courses: principles of economics, intermediate microeconomics, and public finance. We find that textbooks overwhelmingly present national defense as a public good and rarely mention the possibility of government failure. This presentation leaves students with an incomplete and biased exposure to the government provision of public goods. We reconsider some of the main assumptions associated with the standard treatment of national defense as the quintessential public good and discuss opportunities for educators to better prepare students as economists and citizens.

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I. Introduction

National defense is *the* textbook example of a public good presented to undergraduate students throughout their education, from introductory courses to advanced theory to elective courses. This topic therefore proxies how educators teach their students about the provision of “real world” public goods. Our central argument is that economists tend to present public goods to their students in a narrow and incomplete manner.

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To understand how economists present the government provision of public goods to undergraduates, we analyze fifty texts from three widely taught undergraduate economics courses—principles of economics (twenty textbooks), intermediate micro (fifteen textbooks), and public finance (fifteen textbooks)—to assess the context and prevalence of discussions of defense and public goods theory in the classroom. We find that textbooks overwhelmingly cite national defense as a public good, but infrequently mention the possibility of government failure in public good provision. While 94 percent of sampled texts cite national defense as an example of a public good, 24 percent mention defense in treatments of government failure or public choice. Of the sampled textbooks, 96 percent discuss the “free rider” problem as an argument for the state provision of public goods. Further, 90 percent of upper level texts (intermediate micro and public finance) present a theoretical explanation of the government’s optimal provision of a public good. Yet, only 42 percent of textbooks mention the public goods concept in discussions of government failure or public choice.

We focus on national defense for three reasons. First, as noted, national defense is the standard textbook example of a public good. Economics professors expose nearly all undergraduate students to the topic at some point during their education. Economists typically present defense as if an all-knowing and benevolent government effortlessly provides the optimal quantity and quality of security to its citizens. As Dunne (1995, p. 409) writes, “the neoclassical approach to military expenditure . . . is based on the notion of a state with a well-defined social welfare function, reflecting some form of social democratic consensus, recognizing some well-defined national interest, and threatened by some real or apparent potential enemy.” Second, defense expenditures are significant. Fiscal year 2015 expenditures on defense-related activities by the US government exceeded \$1 trillion (Office of Management and Budget 2016a, 2016b, 2016c; Center for Defense Information 2014).¹ This spending has fiscal implications that will affect students as citizens for decades to come. Third, the US government has been at war for a significant

¹ This estimate includes (in billions): Department of Defense (DoD) base budget (\$569.3), Overseas Contingency Operations (\$62.4), Department of Energy nuclear programs (\$19.2), “defense-related activities” (\$8.3), additional military retirement costs (\$18.1), DoD Retiree Health Care Fund Costs (\$–4.3), Veterans Benefits and Services (\$160.6), International Affairs (\$62.7), Homeland Security (\$53.3), and the defense-related share of interest on federal debt (\$71.7).

portion of the lives of current undergraduate students. The traditional students entering college in the fall of 2016 were born in the late 1990s. They were three or four years old at the time of the 9/11 attacks and the subsequent onset of the ongoing “war on terror.” For these students, defense-related activities are a normal part of life and public policy, and will remain so into the foreseeable future. It is therefore important that students understand the nuances of state-provided defense.

Our analysis contributes to an existing literature that analyzes the treatment of economic concepts in undergraduate textbooks (Kent 1989; Kent and Rushing 1999; Pyne 2007; Hill and Myatt 2007; Madsen 2013; Gwartney and Shaw 2013; Eyzaguirre, Ferrarini, and O’Roark 2014; Gwartney and Fike 2015). Our work specifically builds upon prior studies of textbook presentations of government failure theory. Eyzaguirre, Ferrarini, and O’Roark (2014) review 12 principles books and find limited and truncated discussions of government failure. Gwartney and Fike (2015) analyze the prevalence and nature of public choice discussions in a larger sample of 23 principles texts. They find a sizeable disparity between the coverage of market and government failure in terms of both page length and inclusion of key concepts. Both of these papers focus on principles of economics textbooks, thus engaging teaching patterns at the introductory level. The findings, however, are clear: introductory classes disproportionately emphasize market failure, relative to government failure, to students in introductory economics classes.

We make three contributions to this literature. First, we broaden the scope of analysis, surveying 50 textbooks from three widely taught courses. By considering three categories of textbooks, we provide a perspective of the discipline’s presentation of both a theoretical (public goods) and an applied (national defense) concept throughout an undergraduate’s education in economics. Second, we explore the discipline’s approach to teaching a key concept associated with government: public good provision. The aforementioned literature has already identified an imbalance in economic educators’ presentations of the workings of government as evidenced by the underrepresentation of government failure and public choice concepts in economics textbooks. We build on this insight by analyzing an implication of this shortfall: a misleading characterization of one traditional government function—the provision of public goods—both in theory and in practice.

II. Methodology

We identified and gathered selected texts using CourseSmart, an online repository that carries textbooks from over 90 major publishers. For each course, we searched for eligible books using CourseSmart's query tool, typing in the appropriate course keywords (e.g., "principles of economics"). We then selected the most recent available edition of each text.² For a list of textbooks, see the appendix.³

We divide our results into three conceptual groups. The first group—columns one through three under the heading "Public goods discussions include . . ."—documents the inclusion (or exclusion) of the traditional characteristics of public goods discussions. We check column one if a textbook lists national defense as a main example when introducing the concept of public goods.⁴ Column two notes whether or not the textbook cites the "free rider" problem as the key motivation for government provision of a public good. Finally, column three notes if a textbook discusses the optimal provision of a public good by a government. Such discussion can include a suggestion of the equating of social marginal benefits with marginal cost (see Acemoglu, Laibson, and List 2015, pp. 213–16) or advanced theoretical methods such as Lindahl or Vickrey-Clarke-Groves tax schemes (see Hyman 2014, p. 151). We restrict our criteria to textbooks that discuss the government's provision of the optimal level of the good.⁵

² We use a sample of 20 principles texts compared to 15 intermediate and 15 public finance texts since the introductory textbook market is much larger. For this group, we selected only two-semester principles texts that cover both micro and macroeconomic fundamentals. For the upper level courses, we selected books that cover the main concepts in the typical, one-semester course.

³ For each selected textbook, we searched for the relevant keywords using CourseSmart's online reader. Additionally, we consulted the table of contents and index for related terms and concepts. We obtained print versions of Cullis and Jones (2009) and Holcombe (2006) and manually searched for the relevant terms and content. We report results from each book based on these searches.

⁴ Some books used slightly different terminology; we accounted for this difference by reviewing the table of contents to locate the relevant sections. For example, we included both national security and defense as part of our definition of national defense. Similarly, we included nonexcludable goods and Samuelsonian as part of what we recorded in the "public goods" category.

⁵ Forte (2010) notes the efficient level as the intersection of total marginal benefits (summed vertically) and marginal cost but does not indicate the government's provision of this level; this was noted with an asterisk (*) in this column but did not count toward our total.

The second group, columns four and five (titled “Columns are qualified by . . .”), captures whether or not the authors of textbooks temper their treatment of public goods and national defense with the complications introduced by the possibility of government failure. Exposing students to the range of possible outcomes associated with government action is an important step toward an effective teaching framework for public goods conceptually and in application, pertaining for instance to national defense. Column four indicates whether or not the concept of public goods is mentioned in this context, while column five indicates whether national defense is specifically mentioned in this context.⁶

The last group (“Connection to real world . . .”) indicates the inclusion of two important realities of national defense provision in practice. Column six captures whether any mention is made of the “military-industrial complex,” which refers to the powerful private-public interdependency in the defense industry. Scholars working in the area of defense economics emphasize how the public-private partnership that characterizes the US defense industry differs fundamentally from the standard models of private, competitive markets that are presented to students (see Lens 1971; Yarmolinsky 1971; Hooks 1991; Dunne 1995; Duncan and Coyne 2013a, 2013b, 2015). Column seven reports whether or not the textbook includes total defense expenditures by the US government as a line item, as a slice of a pie chart, or as another indicator in a table or graphic of the federal budget. Having a sense of the absolute and relative amount of spending on national defense is crucial if students are to be informed citizens who understand the magnitude of government operations.

⁶ For thorough analyses of the degree of public choice and government failure coverage in textbooks, see Gwartney and Fike (2015) and Eyzaguirre, Ferrarini, and O’Roark (2014). We focus on the public goods concept; thus, we restrict our analysis to the contexts in which textbook authors discuss public goods rather than the extent of coverage of any one topic in terms of page counts. To identify sections that constitute “government failure” or “public choice” discussions, we employ text searches for these terms as well as for “public goods” and “national defense.” To capture discussions in textbooks that employ different terminology, we also referenced the table of contents and index for related discussions. In this process, we consider broad notions of these theories beyond the specific phrases. For instance, we treat concepts like the median voter theorem, bureaucratic inefficiency, rent-seeking, and rational ignorance equally as discussions of government failure where public goods or defense might appear. Additionally, we searched the sections where “public goods” or “national defense” appeared to capture substantive political economy qualifications that were not explicitly in a “public choice” section of the textbook.

III. Results

A. Principles of Economics

The discussion of national defense in principles texts is critical, as introductory courses reach the most students and represent the only formal economic training many of them will receive. Table 1 details the results of our search in 20 selected principles books.

Table 1. Public Goods and National Defense in Principles of Economics Textbooks

Author	Public Goods discussions include...			Concepts are qualified by...		Connection to real world...	
	National Defense as a Key Example (1)	Free Rider Problem as Motivation (2)	Discussion of Optimal Provision (3)	Public Goods in Government Failure/Public Choice Sections (4)	National Defense in Government Failure/Public Choice Sections (5)	Mention of Military Industrial Complex (6)	Inclusion of Defense line item in Federal Budget (7)
Acemoglu et al. 2015	√	√	√				√
Arnold 2014	√	√		√	√		
Baumol and Blinder 2012	√	√					√
Boyes and Melvin 2016	√	√					√
Case et al. 2014	√	√	√	√			
Chiang 2014	√	√	√				√
Colander 2013	√	√	√				
Cowen and Tabbarok 2015	√	√					√
Frank and Bernanke 2015	√	√	√				
Gottheil 2014	√	√		√	√		
Gwartney et al. 2015	√	√					√
Hall and Lieberman 2013	√	√		√			
Hubbard and O'Brien 2015	√	√	√	√			√
Karlan and Morduch 2014	√	√					√
Krugman and Wells 2013	√	√	√				√
Mankiw 2015	√	√		√			√
Mateer and Copcock 2014	√	√					√
O'Sullivan et al. 2014	√	√					√
Slavin 2014	√						√
Tucker 2014	√	√			√		√
Total	20	19	7	6	3	0	14

Notes: Sources obtained via CourseSmart.

These results depict a consistent characterization of public goods. As table 1 indicates, all twenty of the selected principles texts provide national defense as an example of a public good. Seven books label national defense a “pure public good”: perfectly nonrivalrous, nonexcludable, and severely undersupplied absent government intervention. Additionally, nineteen of twenty principles texts cite the “free rider” problem as a central motivation for government provision of public goods. Seven books discuss an approach to their optimal provision by government (column three). This limited technical coverage is understandable given the texts’ introductory nature. Regardless, the implicit (and often explicit) conclusion is that government can and does provide public goods in optimal quantities and qualities.

The second column group addresses topics that would qualify this typical narrative; however, only a handful of textbooks do so. Six principles books mention public goods in the context of government

failure. The “connection to real world” column group reveals mixed results. Not a single sampled principles textbook discusses the military-industrial complex. However, nearly three quarters of the selected principles texts (fourteen) include national defense as a line item in the federal government’s expenditures. While textbooks typically present this information many chapters apart from the introduction of public goods, it at least gives students some sense of the magnitude of government spending on defense.

B. Intermediate Microeconomics

Students who move on to advanced theory find that intermediate microeconomics textbooks exacerbate the educational shortcomings found in the above principles texts. Table 2 details the findings from fifteen selected textbooks from this course category.

Table 2. Public Goods and National Defense in Intermediate Micro Textbooks

Author	Public Goods discussions include...			Concepts are qualified by...		Connection to real world...	
	National Defense as a Key Example (1)	Free Rider Problem as Motivation (2)	Discussion of Optimal Provision (3)	Public Goods in Government Failure/Public Choice Sections (4)	National Defense in Government Failure/Public Choice Sections (5)	Mention of Military Industrial Complex (6)	Inclusion of Defense line item in Federal Budget (7)
Banerjee 2015	√	√	√				
Bernheim and Winston 2014	√	√	√	√			
Besanko and Breatigam 2014	√	√	√				
Browning and Zupan 2015	√	√	√				
Eaton et al. 2012	√	√	√				
Frank 2015	√	√	√	√			
Goosbee et al. 2013	√	√	√				
Hirshleifer et al. 2005	√	√	√				
Landsburg 2014	√	√	√				
McConnell and Brue 2008	√	√	√	√	√		
Nicholson and Snyder 2015	√	√	√	√			
Perloff 2015	√	√	√	√			
Pindyck and Rubinfeld 2013	√	√	√	√			
Serrano and Feldman 2013	√	√	√				
Varian 2014	√	√	√				
Total	15	15	14	6	1	0	0

Note: Sources obtained via CourseSmart.

As indicated, every book cites national defense as an example of a public good. The rhetoric of these categorizations differs little from that in the introductory texts.⁷ Furthermore, all 15 texts cite the “free rider” problem as the reason why government *must* provide public goods, and fourteen of these explain how the state *can* optimally provide public goods. In the second column group, intermediate texts perform comparably to principles texts. Six books (40 percent) discuss public goods in the context of government failure. McConnell

⁷ Typical descriptions follow the familiar explanation of Bernheim and Whinston: “National defense is a classic example of a public good. Because one citizen’s enjoyment of national security does not reduce its value to others, defense is nonrival. And because there is no way to withhold the benefits of national security from any particular person, defense is nonexcludable” (2014, p. 738).

and Brue (2008) is the only book that mentions national defense in government failure discussions. Regarding the “connection to real world” column, no intermediate textbooks mention the military-industrial complex and none details a federal budget with a category for defense spending.

It is plausible that economists see these concepts as ill-fitting for this particular course. There is some credence to this position for a course traditionally devoted to price theory and the study of private markets. That said, most books in this category do discuss public goods and their optimal provision. When the text moves into areas where government intervention is relevant, such as serving as a corrective for market failures, consideration of the economics of how the government sector operates would seem appropriate. If economic educators discuss public goods without the necessary qualifications, they leave advanced undergraduate students with a simplistic and misleading understanding of concepts like national defense.

C. Public Finance

We find a somewhat more promising representation of public goods in the field of most obvious relevance, public finance. This finding makes sense, as public finance classes focus on understanding the workings of government. Table 3 details the results of our survey of public finance books.

Table 3. Public Goods and National Defense in Public Finance Textbooks

Author	Public Goods discussions include...			Concepts are qualified by...		Connection to real world...	
	National Defense as a Key Example	Free Rider Problem as Motivation	Discussion of Optimal Provision	Public Goods in Government Failure/Public Choice Sections	National Defense in Government Failure/Public Choice Sections	Mention of Military Industrial Complex	Inclusion of Defense line item in Federal Budget
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Anderson 2012	√	√	√	√	√		√
Cullis and Jones 2009		√	√				
Forte 2010		√	•	√	√	√	
Gruber 2013	√	√	√	√	√	√	√
Hillman 2009	√	√	√	√	√		
Holcombe 2006	√	√	√	√	√	√	√
Hyman 2014	√	√	√	√	√		√
Jha 2010	√	√	√	√	√		
Kaplow 2008							
Leach 2004	√	√	√				
Myles 2002	√	√	√				
Rosen and Gayer 2014	√	√	√				√
Silvestre 2012	√	√	√	√			
Tresch 2008	√	√	√				√
Ulbrich 2012	√	√	√	√	√		√
Total	12	14	13	9	8	3	7

*Discusses the “efficient level” of a public good, but not the provision of this level
 Note: Sources obtained via CourseSmart.

As shown, twelve of the fifteen books (80 percent) explicitly label national defense a public good. Kaplow (2008), Cullis and Jones (2009), and Forte (2010) are the only textbooks in our cross-course

sample that do not offer national defense as an example of a public good. Forte's is the only selected text that explicitly asserts that defense is *not* a pure public good (2010, p. 140). The authors of fourteen of the fifteen selected textbooks cite the "free rider" problem as a motivation for government provision of public goods, while thirteen books present an approach to the state's optimal provision of the good.

In this course sample, we find that a slim majority of textbooks qualify public goods and national defense by addressing their relationship to concerns of public choice (columns four and five). Nine (60 percent) and eight (53 percent) textbooks discuss public goods and national defense, respectively, in the context of public choice. These numbers are low for a course focused on studying the operation of government and emphasizing the importance of government provision of public goods. Three public finance books—Forte (2010), Gruber (2013), and Holcombe (2006)—are the only texts in our sample that mention the military-industrial complex. Finally, and surprisingly, less than half (seven of fifteen) of public finance texts include a federal budget that quantifies government expenditures on defense relative to other government functions.

IV. Discussion

In our fifty-book, three-course sample, 94 percent of textbooks describe national defense as a public good. We do not deny that aspects of national defense might have public good characteristics. However, not all aspects of defense necessarily fulfill the formal criteria of a public good (Coyne 2015). Educators have the opportunity to have a deeper discussion with students about the nuances of national defense and public goods more broadly. Each of the following four assumptions provides an opportunity to discuss the nuances of national defense, and the government provision of goods more broadly, with students.

A. Assumption 1: Defense is a homogenous public good that governments must provide.

To illustrate how national defense is a public good, many textbooks use the illustration of a missile shield that protects citizens from externally launched missiles. This example was especially relevant during the Cold War when the threat of nuclear weapons was at its height. But the Cold War ended in 1990—as did the relevance of this example for many countries. The nature of defense and security has

changed dramatically in the post-9/11 world in which today's students live. For many citizens and governments alike, the central concern is no longer one government launching a missile into another sovereign state but rather isolated terrorist attacks. Protection from this kind of aggression requires an ever-changing mix of resources—many of which are both excludable and rivalrous.

Consider the many aspects of the “war on terror” that are rivalrous and excludable to varying degrees. External threats have become more localized and targeted. Those in government need to make decisions regarding the allocation of scarce resources among potential, clearly defined targets deemed critical to US security. For example, scarce counterterrorism resources allocated by the US government to protect the National Mall in Washington, DC, cannot simultaneously protect the Mall of America in Minnesota.

Moreover, the standard assumption that defense is a public good that governments must provide neglects the fact that private actors provide many important aspects of defense and security. Mueller and Stewart (2011, pp. 79–80) note several instances where crews and passengers foiled airline attacks without the US government's Transportation Security Administration (TSA). Such private forms of defense are crucial in light of the TSA's failure rate in identifying passengers with explosives and weapons (see Fishel et al. 2015).

B. Assumption 2: Government can provide the optimal amount of national defense.

While a little less than half of sampled principles texts provide some explanation of the optimal provision of public goods by government, 90 percent of upper level textbooks (twenty-seven of thirty) teach theoretical methods by which the state could achieve this optimal level. This is not to say that students are universally led to believe that these schemes are feasible; indeed, some books acknowledge the disconnect between these theoretical allocative schemes and reality. However, even when textbooks mention the difficulties of preference revelation, knowledge, and aggregation, the authors discount these concerns by suggesting that markets suffer from the “free rider” problem and government can overcome it. This suggestion leaves students with the impression that government actors are able to achieve what market actors cannot. Textbook authors tend to neglect, if not outright ignore, the fact that the proposed mechanisms work only under very limited conditions and that there is little evidence that they enable government actors to provide the optimal

quantity and quality of complex goods like national defense (see Rothkopf 2007).

The standard approach misses the opportunity to extend the basic assumption of methodological individualism to government actors as it relates to the provision of defense in the actual world. Appreciating methodological individualism leads to several practical but critical questions for students to consider. Who are the relevant government decision makers and stakeholders regarding defense? How do the decision makers affect the allocation of resources and the production of defense inputs? What knowledge do these decision makers have regarding how much citizens actually value the constituent parts of defense? Teaching strategies that invite students to explore the answers to these and related questions would yield a more complete understanding of the economics of national defense and public good provision. It would also allow students to consider how government actually provides goods and services to citizens.

C. Assumption 3: Government-provided defense is always good.

Economics textbooks suggest that national defense is always a good. In reality, defense goods and services by nature typically involve violence or threats of violence toward some individuals. This means that even if defense is good for one group, it can simultaneously be bad for another group.

For example, as the government of one country increases its expenditures on defense, people in other countries may feel less secure because of changes in relative power. Defense expenditures may make one nation's citizens more secure (a public good), but these same investments may make the citizens of other countries less secure (a public bad). This logic also applies within a country. Consider the internment of Japanese-Americans by the US government during World War II. It is reasonable to assume that those forced into internment camps in the name of national security did not consider the government to be providing them with something good.

Most textbook treatments assume these concerns away by treating defense as a good *ex ante*. Only 24 percent of our sampled textbooks mention defense in discussions of government failure or public choice, and even this subset includes a high variance in the importance placed on the possible inefficiencies and harms mentioned.

D. Assumption 4: Government defense expenditures add value and advance social welfare.

Consider the following sample of headlines that students might confront when reading the daily news:

- “U.S. Audit Finds Fraud in Iraq,” *New York Times*, July 31, 2004
- “Audit Describes Misuse of Funds in Iraq Projects,” *New York Times*, January 25, 2006
- “U.S. Widens Fraud Inquiry into Iraq Military Supplies,” *New York Times*, August 28, 2007
- “Iraq Auditor Warns of Waste, Fraud in Afghanistan,” *Washington Post*, February 2, 2009
- “Special IG for Afghan Reconstruction Cites Rampant Fraud, Waste,” *Stars & Stripes*, January 10, 2013

These headlines do not comport with the assumption that defense-related expenditures always provide value to citizens. In stark contrast, these headlines illustrate how fraud and waste, which benefit specific private individuals at taxpayers’ expense, are often prevalent in the defense sector.

Explaining why these undesirable outcomes occur requires an appreciation of the defense sector’s unique market structure. The national government has a monopoly on defense provision in most countries. At the same time, the government is the main, and often sole, buyer of inputs used to provide defense. Further, governments often purchase defense-related inputs from private firms. These purchases include civilian goods that the government uses for military purposes, such as uniforms and vehicles, and defense-specific goods and services, such as military technology and weapons, that are not legally available to private civilians. To secure military contracts from the US government, firms must successfully navigate the administrative bureaucracy of government agencies. The result is an entanglement of private firms with various aspects of the federal government known as the military-industrial complex, the array of relationships between public and private actors in the defense sector. The resulting market structure differs greatly from the standard models of market structures taught to undergraduate students, such as perfect competition, monopoly, and oligopoly. It also creates an array of perverse incentives for legislators, bureaucrats, and private firms (see Adams 1968, p. 655). Understanding these dynamics requires an appreciation of the incentives facing political actors and

how those incentives interact with the incentives facing private actors who partner with the government to provide defense.

V. Conclusion

Standard treatments of national defense and public goods highlight some of the salient points—for instance, that some goods have characteristics that deviate from those of purely private goods and that this deviation has implications for how private actors provide these goods. However, many economic educators have become trapped in the straightjacket of the traditional public good model and the presumption that national defense satisfies the conditions of a pure public good *ex ante* while neglecting the assumptions underpinning this claim. It may be that economists themselves have not fully appreciated the complications with this approach.

Economic educators have an opportunity to provide students with a deeper and more accurate treatment of national defense and public goods theory, giving them the tools to be effective economists and informed citizens. Rather than restricting national defense to exemplify the public good concept, an emphasis on context would reveal that the same good may be more private or more public in different scenarios—both at a point in time and across time (see Cowen 1985, Coyne 2015). Another option is for teachers to discuss the unique industrial organization of the defense sector and compare it to other market structures. More generally, emphasizing real-world knowledge and incentive constraints would enable students to appreciate the limits on the ability of government decision makers to identify and provide the optimal quality and quantity of national defense and other goods typically classified as public goods. It would also enhance the ability of instructors to link discussions to current events and other disciplines of study. Finally, there is the opportunity to show students how economics provides a framework to understand and explain both the headlines they read (like those mentioned above) and the policies that affect their lives now and in the future. This approach will not only reinforce key economic concepts but will also demonstrate their relevance outside the classroom.

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Appendix: Textbook Lists

Principles of Economics Textbooks

Author(s)	Title	Year	Publisher
Daron Acemoglu, David Laibson, John List	<i>Economics</i> , 1st ed.	2015	Prentice Hall
Roger A. Arnold	<i>Economics</i> , 12th ed.	2014	Cengage Learning
William J. Baumol, Alan S. Blinder	<i>Economics: Principles and Policy</i> , 12th ed.	2012	Cengage Learning
William Boyes, Michael Melvin	<i>Economics</i> , 10th ed.	2016	Cengage Learning
Karl E. Case, Ray C. Fair, Sharon M. Oster	<i>Principles of Economics</i> , 11th ed.	2014	Prentice Hall
Eric P. Chiang	<i>Core Economics</i> , 3rd ed.	2014	Worth Publishers
David C. Colander	<i>Economics</i> , 9th ed.	2013	McGraw-Hill Higher Education
Tyler Cowen, Alex Tabarrok	<i>Modern Principles of Economics</i> , 3rd ed.	2015	Worth Publishers
Robert A. Frank, Ben S. Bernanke	<i>Principles of Economics</i> , 5th ed.	2015	McGraw-Hill Higher Education
Fred Gottheil	<i>Principles of Economics</i> , 7th ed.	2014	Cengage Learning
James D. Gwartney, Richard L. Stroup, Russell S. Sobel, David A. Macpherson	<i>Economics: Private and Public Choice</i> , 15th ed.	2015	Cengage Learning
Robert E. Hall, Marc Lieberman	<i>Economics: Principles and Applications</i> , 6th ed.	2013	Cengage Learning
R. Glenn Hubbard, Anthony Patrick O'Brien	<i>Economics</i> , 5th ed.	2015	Prentice Hall
Morduch Karlan	<i>Economics</i> , 1st ed.	2014	McGraw-Hill Higher Education
Paul Krugman, Robin Wells	<i>Economics</i> , 3rd ed.	2013	Worth Publishers
N. Gregory Mankiw	<i>Principles of Economics</i> , 7th ed.	2015	Cengage Learning
Dirk Mateer, Lee Coppock	<i>Principles of Economics</i> , 1st ed.	2014	W. W. Norton & Company
Arthur O'Sullivan, Steven M. Sheffrin, Stephen J. Perez	<i>Economics: Principles, Applications, and Tools</i> , 8th ed.	2014	Prentice Hall
Stephen L. Slavin	<i>Economics</i> , 11th ed.	2014	McGraw-Hill Higher Education
Irvin B. Tucker	<i>Economics for Today</i> , 8th ed.	2014	Cengage Learning

Intermediate Microeconomics Textbooks

Author(s)	Title	Year	Publisher
Samiran Banerjee	<i>Intermediate Microeconomics</i> , 1st ed.	2015	Taylor & Francis
B. Douglas Bernheim, Michael D. Whinston	<i>Microeconomics</i> , 2nd ed.	2014	McGraw-Hill Higher Education
David Besanko, Ronald Breutigam	<i>Microeconomics</i> , 5th ed.	2014	John Wiley & Sons
Edgar K. Browning, Mark A. Zupan	<i>Microeconomics: Theory & Applications</i> , 12th ed.	2015	John Wiley & Sons
B. Curtis Eaton, Diane F. Eaton, Douglas W. Allen	<i>Microeconomics: Theory with Applications</i> , 8th ed.	2012	Pearson Education Canada
Robert A. Frank	<i>Microeconomics and Behavior</i> , 9th ed.	2015	McGraw-Hill Higher Education
Austan Goolsbee, Steven Levitt, Chad Syverson	<i>Microeconomics</i> , 1st ed.	2013	Worth Publishers
Jack Hirshleifer, David Hirshleifer, Amihai Glazer	<i>Price Theory and Applications: Decisions, Markets, and Information</i> , 7th ed.	2005	Cambridge University Press
Steven E. Landsburg	<i>Price Theory and Applications</i> , 9th ed.	2014	Cengage Learning
Campbell R. McConnell, Stanley L. Brue	<i>Microeconomics</i> , 17th ed.	2008	McGraw-Hill Higher Education
Walter Nicholson, Christopher Snyder	<i>Intermediate Microeconomics and its Application</i> , 12th ed.	2015	Cengage Learning
Jeffrey M. Perloff	<i>Microeconomics</i> , 7th ed.	2015	Prentice Hall
Robert S. Pindyck, Daniel L. Rubinfeld	<i>Microeconomics</i> , 8th ed.	2013	Prentice Hall
Roberto Serrano, Allan M. Feldman	<i>A Short Course in Intermediate Microeconomics with Calculus</i> , 1st ed.	2013	Cambridge University Press
Hal R. Varian	<i>Intermediate Microeconomics: A Modern Approach</i> , 9th ed.	2014	W. W. Norton & Company

Public Finance Textbooks

Author(s)	Title	Year	Publisher
John E. Anderson	<i>Public Finance</i> , 2nd ed.	2012	Cengage Learning
John Cullis, Philip Jones	<i>Public Finance and Public Choice: Analytical Perspectives</i> , 3rd ed.	2009	Oxford University Press
Francesco Forte	<i>Principles of Public Economics: A Public Choice Approach</i> , 5th ed.	2010	Edward Elgar Publishing
Jonathan Gruber	<i>Public Finance and Public Policy</i> , 4th ed.	2013	Worth Publishers
Arye L. Hillman	<i>Public Finance and Public Policy: Responsibilities and Limitations of Government</i> , 2nd ed.	2009	Cambridge University Press
Randall Holcombe	<i>Public Sector Economics: The Role of Government in the American Economy</i>	2006	Pearson Prentice Hall
David N. Hyman	<i>Public Finance: A Contemporary Application of Theory to Policy</i> , 11th ed.	2014	Cengage Learning
Raghbendra Jha	<i>Modern Public Economics</i> , 2nd ed.	2010	Routledge
Louis Kaplow	<i>The Theory of Taxation and Public Economics</i> , 1st ed.	2008	Princeton University Press
John Leach	<i>A Course in Public Economics</i> , 1st ed.	2004	Cambridge University Press
Gareth D. Myles	<i>Public Economics</i> , 1st ed.	2002	Cambridge University Press
Harvey S. Rosen, Ted Gayer	<i>Public Finance</i> , 10th ed.	2014	McGraw-Hill Higher Education
Joaquim Silvestre	<i>Public Microeconomics</i> , 1st ed.	2012	Edward Elgar Publishing
Richard W. Tresch	<i>Public Finance: A Normative Theory</i> , 2nd ed.	2002	Elsevier Science
Richard W. Tresch	<i>Public Sector Economics</i> , 1st ed.	2008	Palgrave Macmillan
Holley H. Ulbrich	<i>Public Finance in Theory and Practice</i> , 2nd ed.	2012	Taylor & Francis