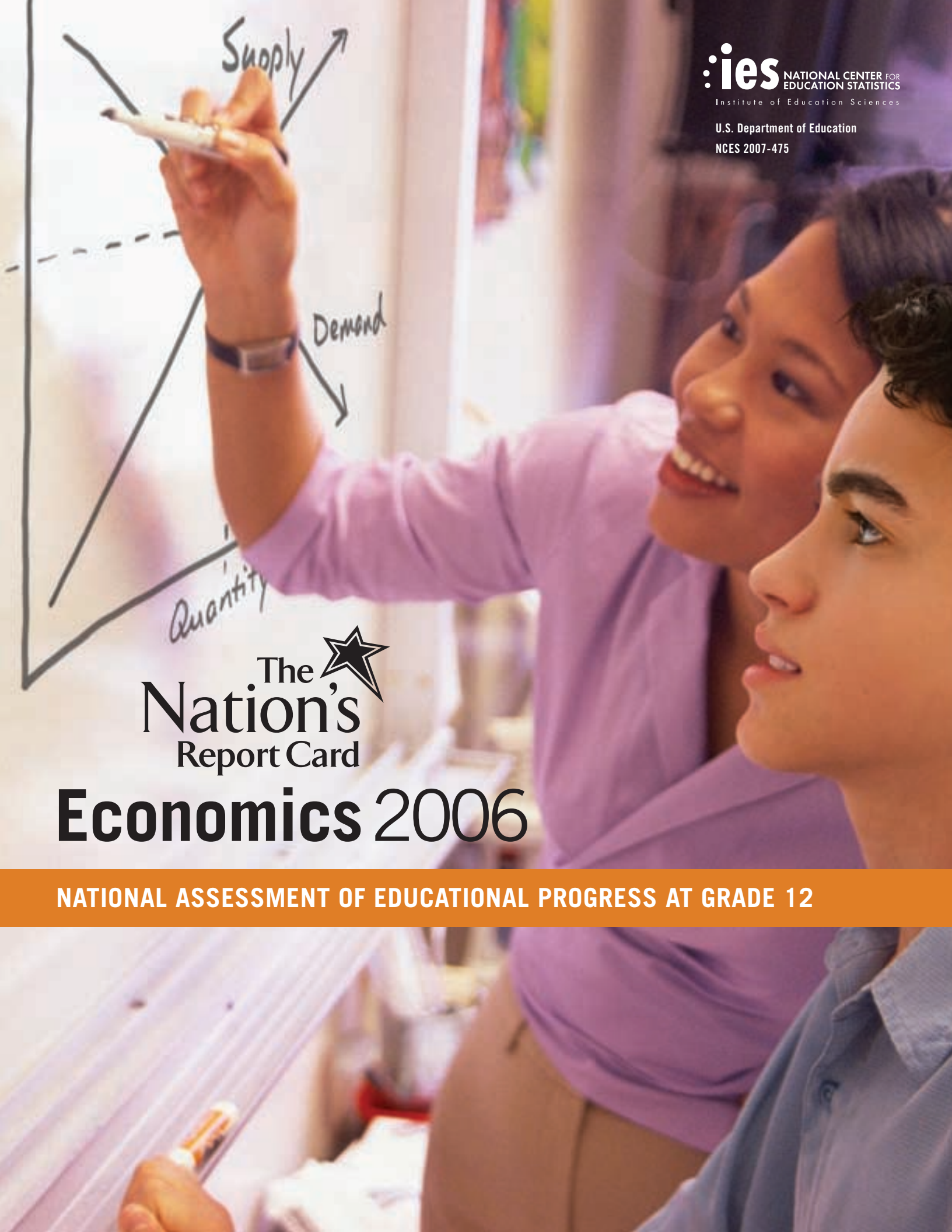


ies NATIONAL CENTER FOR EDUCATION STATISTICS
Institute of Education Sciences
U.S. Department of Education
NCES 2007-475

The Nation's Report Card

Economics 2006

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS AT GRADE 12

Contents

AUGUST 2007

What is The Nation's Report Card™?

The Nation's Report Card™ informs the public about the academic achievement of elementary and secondary students in the United States. Report cards communicate the findings of the National Assessment of Educational Progress (NAEP), a continuing and nationally representative measure of achievement in various subjects over time.

For over three decades, NAEP assessments have been conducted periodically in reading, mathematics, science, writing, U.S. history, civics, geography, and other subjects. By making objective information available on student performance at the national, state, and local levels, NAEP is an integral part of our nation's evaluation of the condition and progress of education. Only information related to academic achievement and relevant variables is collected. The privacy of individual students is protected, and the identities of participating schools are not released.

NAEP is a congressionally authorized project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences of the U.S. Department of Education. The Commissioner of Education Statistics is responsible for carrying out the NAEP project. The National Assessment Governing Board oversees and sets policy for NAEP.

Executive Summary

Knowledge of economics is important for individuals to function effectively as citizens in an increasingly connected world economy. Economic literacy includes understanding how economies and markets work, what the benefits and costs of economic interaction and interdependence are, and that people have to make choices because resources are limited. In recent decades, the focus on economics content in the school curriculum has increased.

Results

In this first NAEP assessment of economics at grade 12, the overall average economics score, set at 150, fell within the *Basic* achievement level. Seventy-nine percent of students performed at the *Basic* level or higher, and 42 percent performed at the *Proficient* level or higher, including 3 percent at the *Advanced* level. Results are based on a nationally representative sample of 11,500 twelfth-grade students from 590 public and nonpublic high schools.

Some Key Findings Include

- The average economics score of male students was higher than the average score of female students.
- White and Asian/Pacific Islander students scored higher, on average, than other racial/ethnic groups.
- Students from large city schools had lower average scores than students in other locations.
- Students whose parents had higher levels of education exhibited higher performance in economics.
- Most students study some economics in high school.

Economics Content

Students answered questions representing a wide range of content from three areas: market, national, and international economics. Market economy—traditionally described as microeconomics—covers how individuals, businesses, and institutions make decisions about allocating resources in the marketplace. National economy—traditionally described as macroeconomics—encompasses the sum of decisions made by individuals, businesses, and government. International economy concentrates on international trade—how individuals and businesses interact in foreign markets. The questions described below and presented in this report illustrate the knowledge and skills assessed in these three content areas. The full assessment includes questions that cover a range of topics and difficulty levels within each content area.

WHAT STUDENTS KNOW ABOUT ECONOMICS

MARKET ECONOMY	NATIONAL ECONOMY	INTERNATIONAL ECONOMY
72% described a benefit and a risk of leaving a full-time job to further one's education	***60%*** identified factors that lead to an increase in the national debt	***63%*** determined the impact of a decrease in oil production on oil-importing countries
52% identified how commercial banks use money deposited into customers' checking accounts	***36%*** identified the federal government's primary source of revenue	***51%*** determined a result of removing trade barriers between two countries
46% interpreted a supply and demand graph to determine the effect of establishing a price control	***33%*** explained the effect of an increase in real interest rates on consumers' borrowing	***40%*** determined why industries can successfully lobby for tariff protection
36% used marginal analysis to determine how a business could maximize its profits	***11%*** analyzed how a change in the unemployment rate affects income, spending, and production	***32%*** identified how investment in education can impact economic growth

The 12th-Grade Economics Assessment

Economic literacy enables individuals to function effectively as citizens in an increasingly connected world economy. The focus on economics in the school curriculum has grown in recent decades. Today, economics content is being integrated into traditional mathematics, reading, and social studies lessons at the elementary and secondary levels, and some high school students may take a course specifically focused on economics. However, even if students have no formal economics instruction, they may be exposed to economics concepts at home, through the media, or as a part of their employment.

Assessment Framework

The NAEP assessment was based on a framework, developed by the National Assessment Governing Board, which describes the content areas, cognitive categories, and assessment contexts to be measured. The framework incorporates standards and benchmarks taken from the *Voluntary National Content Standards in Economics*.[1]

CONTENT AREAS

The economics assessment covers three content areas. The percentage of total time students spent answering questions in each area is shown in parentheses.

- ***Market economy***—addresses how individuals and businesses make economic choices as buyers and sellers in the marketplace. (45 percent)
- ***National economy***—examines the overall conditions in the U.S. economy. (40 percent)
- ***International economy***—explores how national economies interact with one another. (15 percent)

[1] National Council on Economics Education, 1997.

ASSESSMENT DESIGN

A nationally representative sample of 11,500 twelfth-grade students in 590 public and non-public high schools participated in the first NAEP economics assessment in 2006. Because of the breadth of content covered, each student took just a portion of the assessment, answering two 25-minute sections consisting of 17 to 21 multiple-choice and constructed-response questions. Three sections of test questions have been publicly released and are available at http://nces.ed.gov/nationsreportcard/itmrls/.

COGNITIVE CATEGORIES

Within each of the content areas, questions are designed to assess economics in three cognitive categories. Students spent about one-third of the assessment time answering questions in each category.

- ***Knowing***—asks students to identify and recall information and to recognize economic terms and concepts.
- ***Applying***—requires students to describe or explain the relationship between information and economic concepts.
- ***Reasoning***—measures students' ability to use information and economic concepts accurately to solve problems, evaluate issues, and interpret situations.

ASSESSMENT CONTEXTS

Because students may apply economics knowledge and skills inside and outside of school, the framework requires that questions be set in various contexts. About 20 to 30 percent of the questions were set within each context. A small percentage of questions were classified in multiple contexts, in other contexts, or as context-free.

- ***Individual*** and ***Household*** questions focus on topics related to personal finance.
- ***Business*** questions relate to entrepreneurs, workers, producers, and investors.
- ***Public*** questions concern government, policy, citizenship, and domestic and international organizations.

Additional background about the growth of economics education and more detailed information about the assessment framework for 2006 may be found on the Governing Board website at http://www.nagb.org/frameworks/economics_06.pdf.

Reporting Economics Results

Economics was assessed by NAEP at grade 12 only for the first time in 2006. Performance in economics is reported for all 12th-grade students and for groups of students (for example, by gender, race/ethnicity, school location, and level of parental education). Results are presented in two ways: as average scale scores and as percentages of students performing at or above NAEP achievement levels. When economics is assessed again in 2012, trends in performance will be reported.

Scale Scores

Scale scores measure what students know and are able to do. The economics results, overall and for each of the three content areas, are reported on a 0–300 scale. In addition to average scores, results are reported for specific percentile scores that describe lower-, middle-, and higher-performing groups. Because subscales are set separately for each content area, comparisons cannot be made from one subscale to another.

Achievement Levels

Achievement levels describe what students *should* know and be able to do. Based on the recommendations of educators, subject matter experts, and other members of the public, the Governing Board identified specific scores on the economics scale that represent minimum levels for *Basic*, *Proficient*, and *Advanced* performance.

As provided by law, NCES, upon review of congressionally mandated evaluations of NAEP, has determined that achievement levels are to be used on a trial basis and should be interpreted with caution. The NAEP achievement levels have been widely used by national and state officials.

Item Maps

As shown in the content area sections of this report, item maps are another way to interpret the scale scores and achievement-level results. The item maps list selected test questions that are located at various levels of difficulty on the overall economics scale.

Interpreting Results

NAEP uses widely accepted statistical standards for discussing and presenting results. This report discusses only comparisons that are statistically significant at the .05 level with appropriate adjustments for multiple comparisons.

In addition to the overall results for the nation, performance is presented for different student groups. These results cannot be used to establish a cause-and-effect relationship between background characteristics and achievement. A complex mix of education and socioeconomic factors may be present and affect student performance.

Not all of the data for results discussed in the text are presented in corresponding graphics or tables, but they can be found on the NAEP website at http://nces.ed.gov/nationsreportcard/nde/. For additional information about the NAEP economics assessment, see the Technical Notes section of this report or visit http://nationsreportcard.gov.

NAEP ACHIEVEMENT LEVELS

Basic denotes partial mastery of the knowledge and skills that are fundamental for proficient work at a given grade.

Proficient represents solid academic performance. Students reaching this level have demonstrated competency over challenging subject matter.

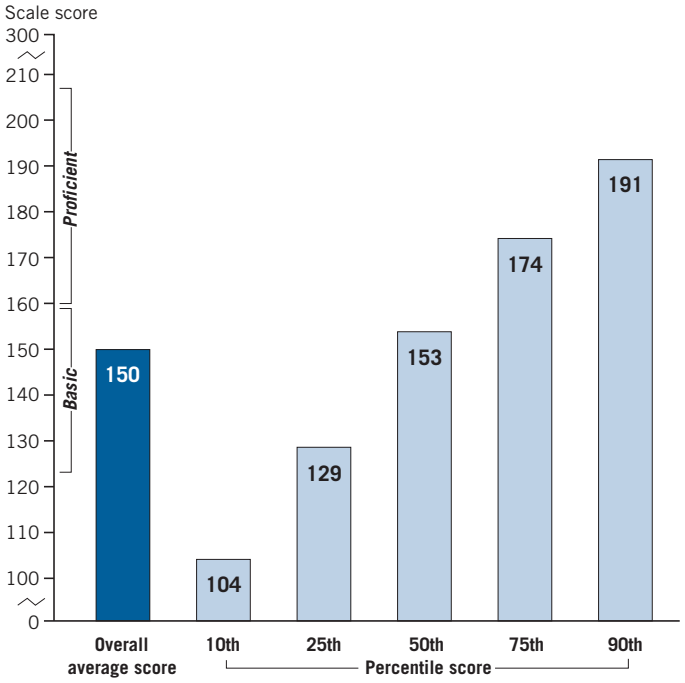
Advanced signifies superior performance.

First Ever Economics Results

In 2006, in the first ever national assessment of economics, 79 percent of 12th-graders nationwide performed at or above the *Basic* achievement level. Forty-two percent performed at the *Proficient* level or higher. On average, male students scored higher than female students, and White and Asian/Pacific Islander students scored higher than other racial/ethnic groups. Students from schools in large cities had lower average scores than students from schools in other locations. Students from families with higher levels of parental education scored higher, on average, than their peers from families with lower levels of parental education. Most 12th-graders reported some exposure to economics content during high school.

Average score falls in the *Basic* range

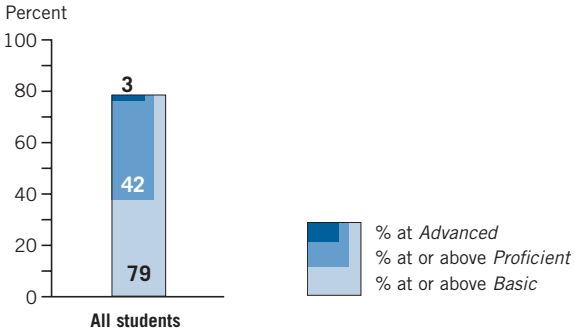
Figure 1. **Average 12th-grade NAEP economics score and percentile scores in 2006**



The overall average economics score fell within the *Basic* achievement level (figure 1). Students at the 10th percentile scored at 104, which is below the *Basic* level. Students at the 75th and 90th percentiles scored within the *Proficient* level, with scores of 174 and 191, respectively.

Seventy-nine percent of students performed at or above the *Basic* achievement level, as shown in figure 2, and 42 percent reached the *Proficient* level or higher. Three percent of 12th-graders demonstrated *Advanced* economics knowledge and skills.

Figure 2. **Twelfth-grade NAEP economics achievement-level performance in 2006**

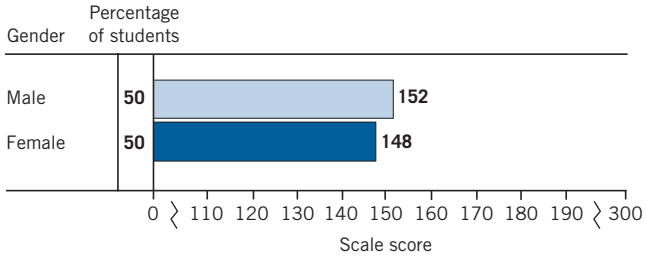


Male students outperform female students

On average, male students scored 4 points higher in economics than female students (figure 3). Although not shown here, a similar result was found for the market, national, and international economy subscales.

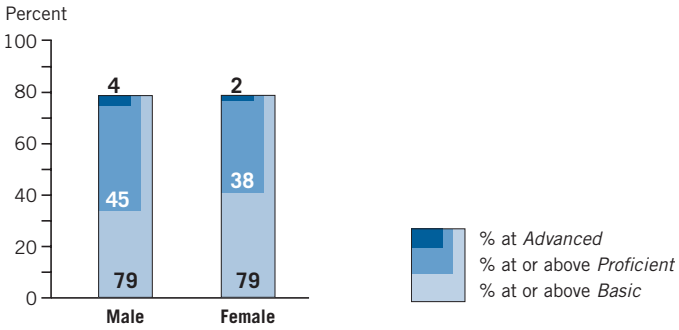
Greater percentages of male students than female students performed at or above the *Proficient* level and at the *Advanced* level, as shown in figure 4. The percentages of male and female students performing at or above the *Basic* level were essentially the same.

Figure 3. **Percentage of 12th-graders and average NAEP economics score in 2006, by gender**



NOTE: Detail may not sum to totals because of rounding.

Figure 4. **Twelfth-grade NAEP economics achievement-level performance in 2006, by gender**

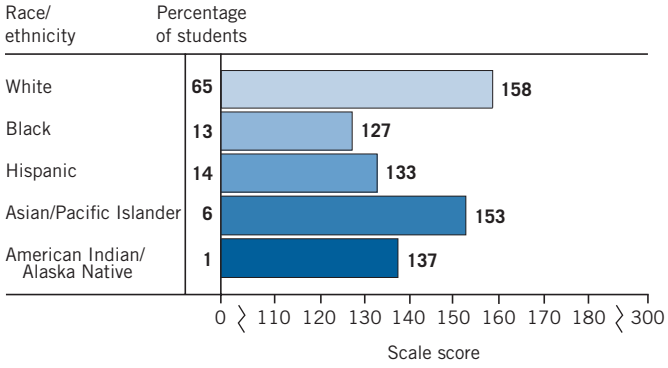


SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

White and Asian/Pacific Islander students outscore peers

White and Asian/Pacific Islander students scored higher in economics, on average, than Black, Hispanic, and American Indian/Alaska Native students (figure 5). Hispanic students had higher average scores than Black students, and the average scores for both groups were not significantly different from American Indian/Alaska Native students. Nationally, about two-thirds of high school seniors were White, while one-third belonged to minority groups.

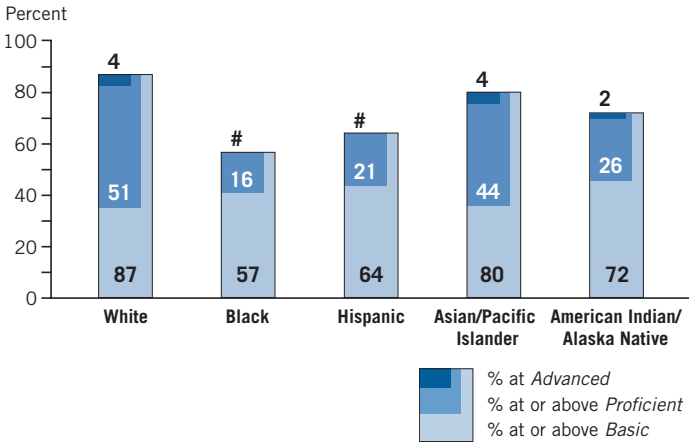
Figure 5. **Percentage of 12th-graders and average NAEP economics score in 2006, by race/ethnicity**



NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Detail may not sum to totals because results are not shown for the "unclassified" race/ethnicity category.

Achievement-level results (figure 6) were similar to score results. The percentages of White and Asian/Pacific Islander students performing at or above each achievement level were greater than the percentages for Black and Hispanic students.

Figure 6. **Twelfth-grade NAEP economics achievement-level performance in 2006, by race/ethnicity**

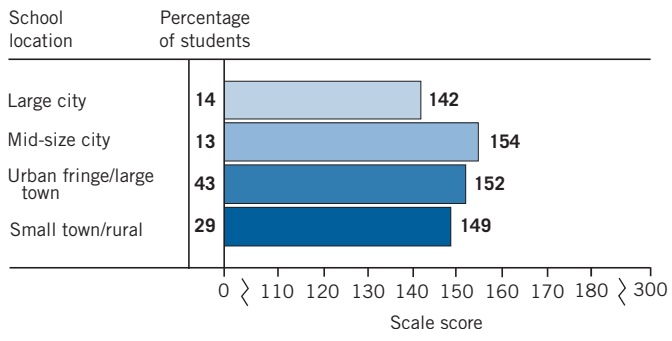


Rounds to zero.
NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Students in large city schools score lower than students elsewhere

Students attending large city schools (14 percent of 12th-graders) had lower average scores than students in schools in other locations (figure 7). There were no other significant differences in the average scores of students from other school locations. Large cities are defined as urban centers with populations of 250,000 or more. More detailed descriptions of the school location categories are presented in the Technical Notes section.

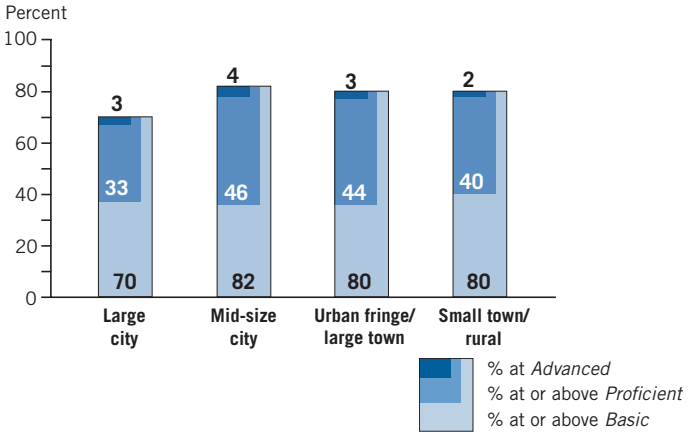
Figure 7. **Percentage of 12th-graders and average NAEP economics score in 2006, by school location**



NOTE: Detail may not sum to totals because of rounding.

A similar pattern was seen in the achievement-level results (figure 8). The percentages of students from large city schools performing at or above *Basic* and at or above *Proficient* were lower than the percentages for students from other school locations, with one exception. The percentages of students at or above *Proficient* from large city schools and small town/rural schools were not significantly different.

Figure 8. **Twelfth-grade NAEP economics achievement-level performance in 2006, by school location**



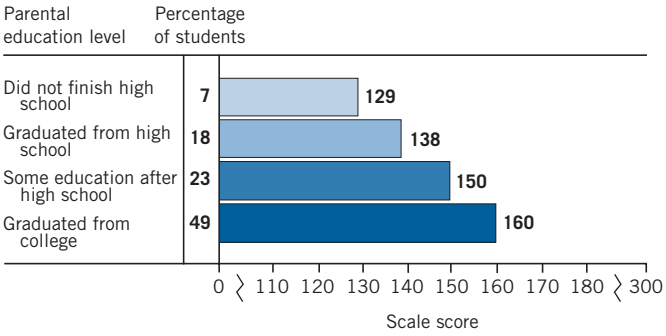
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Higher levels of parental education are associated with higher scores

Students who reported higher levels of parental education scored higher on the economics assessment. The highest level of education for either parent indicated by the students was used for the results shown in figure 9.

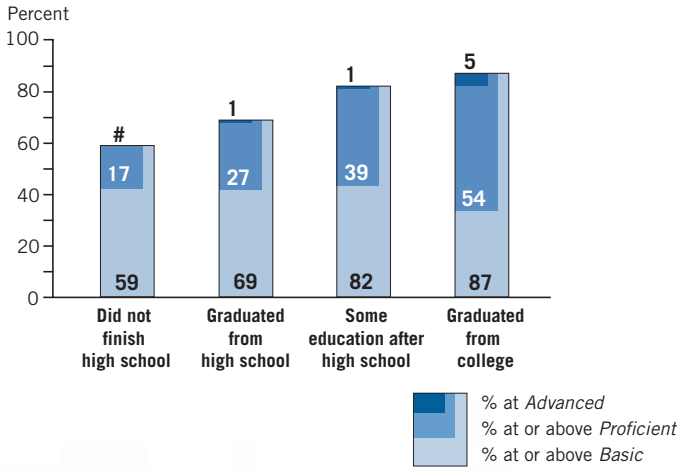
Students who reported that at least one parent graduated from college (about one-half of the 12th-graders) scored higher, on average, than students whose parents had less education. Similarly, students who had at least one parent with some education after high school had higher average scores than those whose parents had no postsecondary education. Students with at least one parent who was a high school graduate scored higher, on average, than students whose parents did not finish high school. The same score patterns held for the market, national, and international economy subscales (not shown) and for the percentages of students at or above *Basic* and at or above *Proficient* (figure 10).

Figure 9. **Percentage of 12th-graders and average NAEP economics score in 2006, by highest level of parental education**



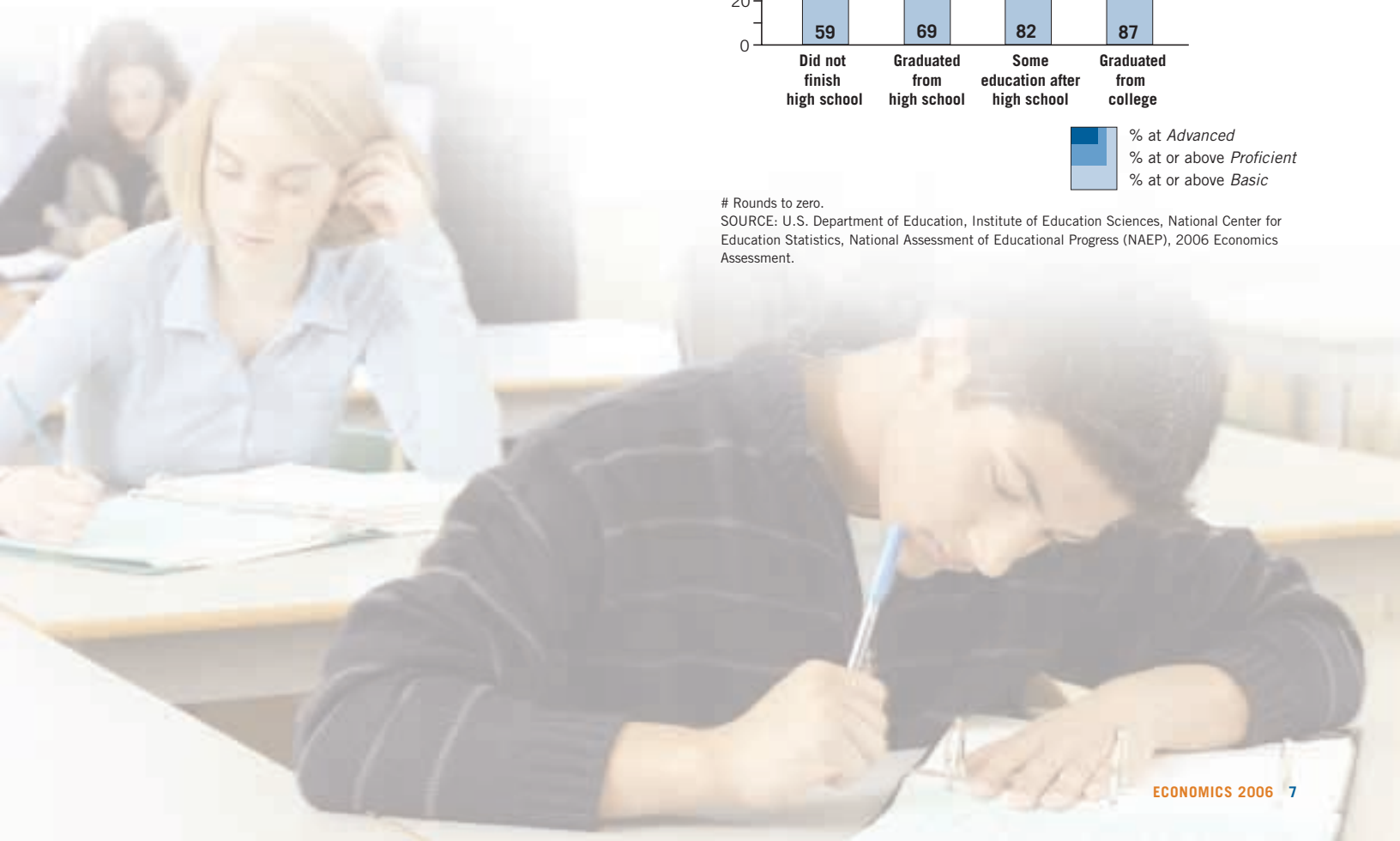
NOTE: Detail may not sum to totals because results are not shown for students who reported that they did not know the highest education level for either of their parents.

Figure 10. **Twelfth-grade NAEP economics achievement-level performance in 2006, by highest level of parental education**



Rounds to zero.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.



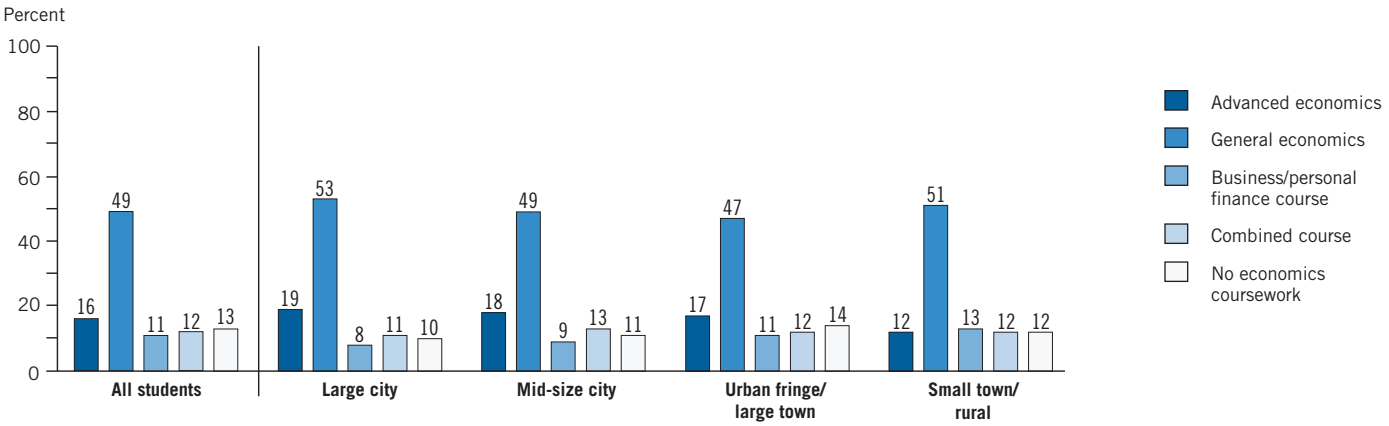
Most students study some economics in high school

Students were asked whether they had taken any economics-related courses in high school. The course options were collapsed into five categories, and the results were summarized by describing the "highest" or most rigorous level course a student had taken (figure 11).

Most 12th-graders reported some exposure to economics content in school. Sixteen percent of students reported taking an advanced economics course (Advanced Placement, International Baccalaureate, or honors course), and an additional 49 percent took general economics. Twenty-three percent indicated that they had taken a business course, a personal finance course, or a course that combined economics content with another subject, often government. Thirteen percent said that they had not had any formal economics instruction.

Similar coursetaking patterns were observed among various groups of students. For example, the percentages of students from different school locations taking various levels of economics coursework were not significantly different, except that students from small town/rural schools were less likely to take advanced courses than students from large city and urban fringe/large town schools (figure 11). Another exception (not shown here) was that a greater proportion of students with at least one parent who had graduated from college reported taking advanced economics than students whose parents had less education.

Figure 11. **Percentage of 12th-graders in 2006, by highest level of economics coursework for all students and for school locations**



NOTE: Data from the student questionnaire were collapsed into the coursework categories presented in this figure. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

HIGH SCHOOL TRANSCRIPT STUDY OF ECONOMICS COURSETAKING

For over 20 years, the High School Transcript Study (HSTS) has been periodically analyzing the coursetaking patterns of high school graduates based on the transcripts from a nationally representative sample. It has been conducted in conjunction with NAEP grade 12 assessments since 1990. *A comparison of results from the first HSTS study in 1982 and the most recent study in 2005 indicates that the percentage of high school graduates who have taken an economics course has increased from 49 percent to 66 percent.* The classification of courses for HSTS analyses is based on high school course catalogues, and only courses that are clearly related to economics are included. It is possible that additional students have been exposed to economics content in courses that do not specifically refer to economics in the course catalogue.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), 1982 and 2005.

Economics Achievement Levels

The economics achievement levels represent what 12th-graders should know and be able to do at each level. The following are excerpts from achievement-level descriptions for economics with the corresponding cut scores noted in parentheses. The full descriptions may be found at http://www.nagb.org/frameworks/economics_06.pdf.

***Basic* (123):** Students performing at the *Basic* level of achievement should be able to identify and recognize *a limited set of economic concepts and relationships* that are important for partial understanding of the market economy, national economy, and international economy. An example of the level of understanding that students should be able to demonstrate at the *Basic* level is the ability to recognize the inverse relationship between the market price of a product and the amount buyers are willing and able to purchase.

Students should be able to use a limited set of these economic concepts and relationships in simple applications. For example, when given data or information about an economic event or situation, they should be able to identify a likely economic outcome. Students should be able to interpret data or information presented in simple charts, graphs, or tables, such as those showing changes in economic data over time.

***Proficient* (160):** Students performing at the *Proficient* level of achievement should be able to identify and recognize *a broader set of economic concepts and relationships* that are important for solid understanding of the market economy, national economy, and international economy. An example of the level of understanding that students should be able to demonstrate at the *Proficient* level is the ability to explain the role of shortages in causing market prices to change.

Students should be able to use a broader set of these economic concepts and relationships in more challenging applications that involve analyzing economic problems and decisions, and recommending policies and actions. Students should be able to interpret data or information presented in complex charts, graphs, or tables, such as those relating changes in one or more economic variables to changes in other economic variables, and to analyze economic data and information to describe events and trends.

***Advanced* (208):** Students performing at the *Advanced* level of achievement should be able to identify and recognize *an extensive set of economic concepts and relationships* that are important for thorough understanding of the market economy, national economy, and international economy. An example of the level of understanding that students should be able to demonstrate at the *Advanced* level is the ability to identify factors that increase or decrease the demand for a product and to explain the effects of these changes on price and quantity.

Students should be able to use these economic concepts and relationships in complex applications that involve analysis and evaluation of economic data and information to explain events and their causes, and policies and their outcomes. Students should be able to use data or information presented in complex charts, graphs, or tables in their analysis and evaluation.

ECONOMIC CONCEPTS AND RELATIONSHIPS

The full achievement-level descriptions cite the following topics:

Market economy—scarcity, opportunity cost, incentives, marginal decision-making, markets, prices, demand, supply, competition, economic institutions, income determination, entrepreneurship, investment, and government actions

National economy—economic systems, money, interest rates, economic growth, gross domestic product, unemployment, inflation, fiscal policy, and monetary policy

International economy—comparative advantage, the benefits and costs of trade, and exchange rates

Market Economy

The market economy content area includes much of what is traditionally described as microeconomics. It focuses on how individuals, businesses, and institutions make decisions about allocating limited resources in the marketplace where goods and services are bought and sold. Key concepts include

- how buyers and sellers interact to create markets,
- how markets allocate resources, and
- what economic role the government has in a market economy.

Range of Market Economy Questions

The item map below, which shows a range of market economy questions, helps to explain what it means to perform at various levels on the assessment. The 0–300 economics scale and the scores that define the lower boundaries of each achievement level are along the left side. The right side lists selected multiple-choice (in *italic* type) and constructed-response questions (in regular type) that fall at various levels of difficulty on the scale.

Constructed-response questions for which students could earn partial or complete credit appear on the map multiple times, once for each level of credit. For example, a partial explanation of how a change in the cost to produce a product will influence its price appears at 134 on the scale, and a complete explanation appears at 213.

The sample questions that follow illustrate knowledge and skills assessed related to market economy. However, they do not represent the entire range of content assessed in this area.

Grade 12 NAEP Item Map for Market Economy

	Scale score	Question description
	300	
	~	
Advanced	261	Provide a complete explanation of how a change in the price of a product will affect the quantity of the product demanded
Advanced	234	Provide a complete explanation of how compounded interest rates affect consumers
Advanced	232	Provide a public policy recommendation and a complete explanation of its likely effects based on economic reasoning
Advanced	213	Provide a complete explanation of how a change in the cost to produce a product will influence its price
	208	
Proficient	206	*Identify an appropriate definition of the term "equilibrium price"*
Proficient	195	*Interpret a supply and demand graph to determine the effect of establishing a price control* (shown on page 15)
Proficient	193	*Use marginal analysis to determine how a business could maximize its profits* (shown on page 14)
Proficient	183	*Identify how commercial banks use money deposited into customers' checking accounts* (shown on page 13)
Proficient	178	Provide a public policy recommendation and a partial explanation of its likely effects based on economic reasoning
Proficient	176	List two factors to consider when weighing the marginal benefits and marginal costs of a financial decision
Proficient	166	*Analyze the effect of a poor harvest on the supply of an agricultural product*
	160	
Basic	152	*Determine how a rise in individuals' incomes would influence the demand for a product*
Basic	134	Provide a partial explanation of how a change in the cost to produce a product will influence its price
Basic	131	Describe one benefit and one risk of leaving a full-time job to further one's education (shown on page 12)
Basic	131	Provide a partial explanation of how a change in the price of a product will affect the quantity of the product demanded
Basic	123	*Predict how consumers will respond to incentives provided by producers*
	123	
	118	List one factor to consider when weighing the marginal benefits and marginal costs of a financial decision
	117	Provide a public policy recommendation based on economic reasoning
	105	Provide a partial explanation of how compounded interest rates affect consumers
	82	Describe either one benefit or one risk of leaving a full-time job to further one's education (shown on page 12)
	~	
	0	

NOTE: The position of a question on the composite scale represents the average scale score attained by students who had a 65 percent probability of obtaining credit at a specific level of a constructed-response question, or a 74 percent probability of correctly answering a four-option multiple-choice question.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About Investment in Human Capital

Sample question 1 measures students' understanding of the risks and rewards of increased investment in human capital. The benchmark being assessed by this question focuses on how investments in physical and human capital can increase productivity, although such investments entail opportunity costs and economic risks. This question was classified in the cognitive category of *Applying* economic information and concepts within an *Individual/Household* context.

Student responses for this short constructed-response question were rated using the following three-level scoring guide:

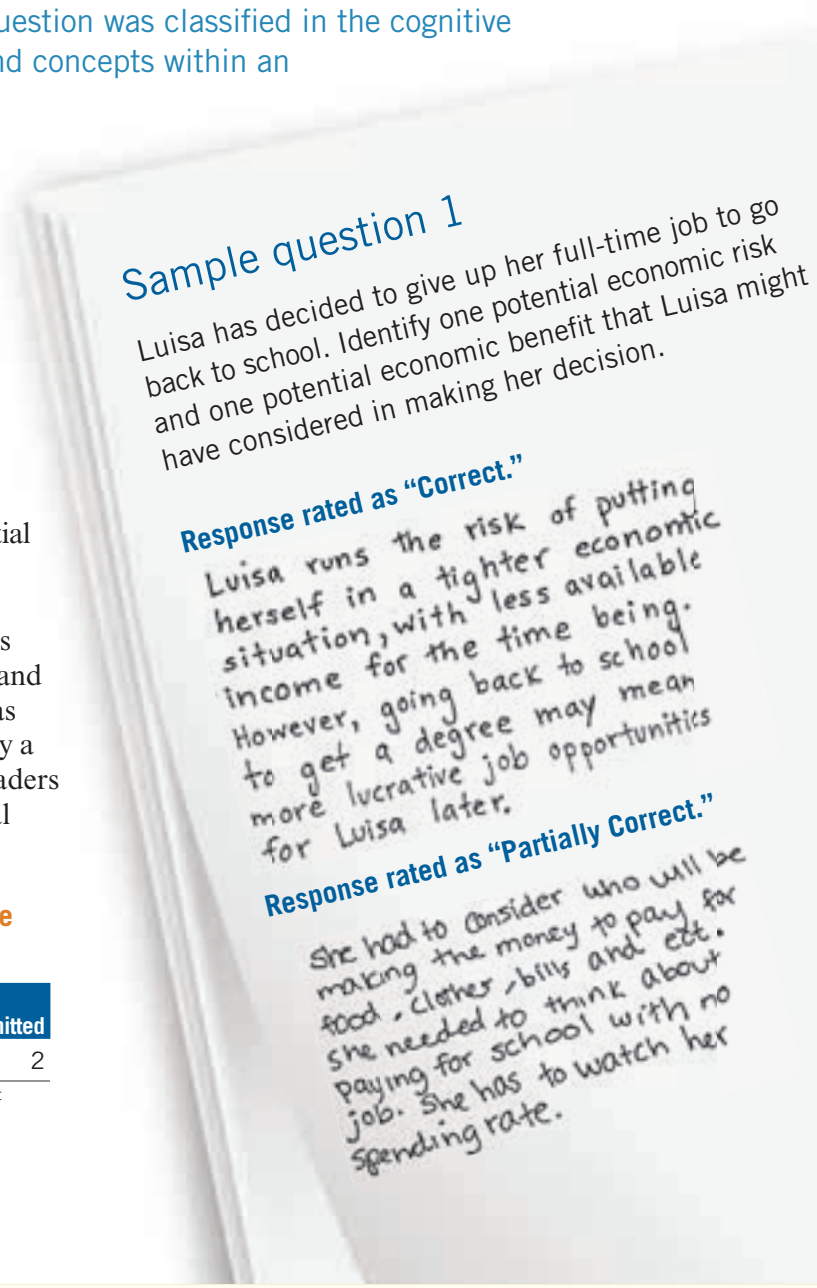
- **Correct**—Response provides both a potential risk and a potential benefit for a person who might be leaving the workplace to enter school full time.
- **Partially Correct**—Response provides either a potential risk or a potential benefit, but not both.
- **Incorrect**—Response fails to provide either a potential risk or a potential benefit.

The first student response on the right was rated as "Correct" because it provided both a potential risk and a potential benefit. The second student response was rated as "Partially Correct" because it provided only a potential risk. Seventy-two percent of the 12th-graders answered this question correctly, and an additional 19 percent gave a partially correct response.

Percentage of 12th-grade students in each response category in 2006

Correct	Partially Correct	Incorrect	Omitted
72	19	5	2

NOTE: Detail may not sum to totals because a small percentage of responses that did not address the assessment task are not shown.



The table on the right shows the percentage of students within each achievement level whose answer to the question above was rated as "Correct." For example, 73 percent of 12th-grade students at the *Basic* level provided a response rated as "Correct."

Percentage rated as "Correct" for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
39	73	87	98

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About Institutions

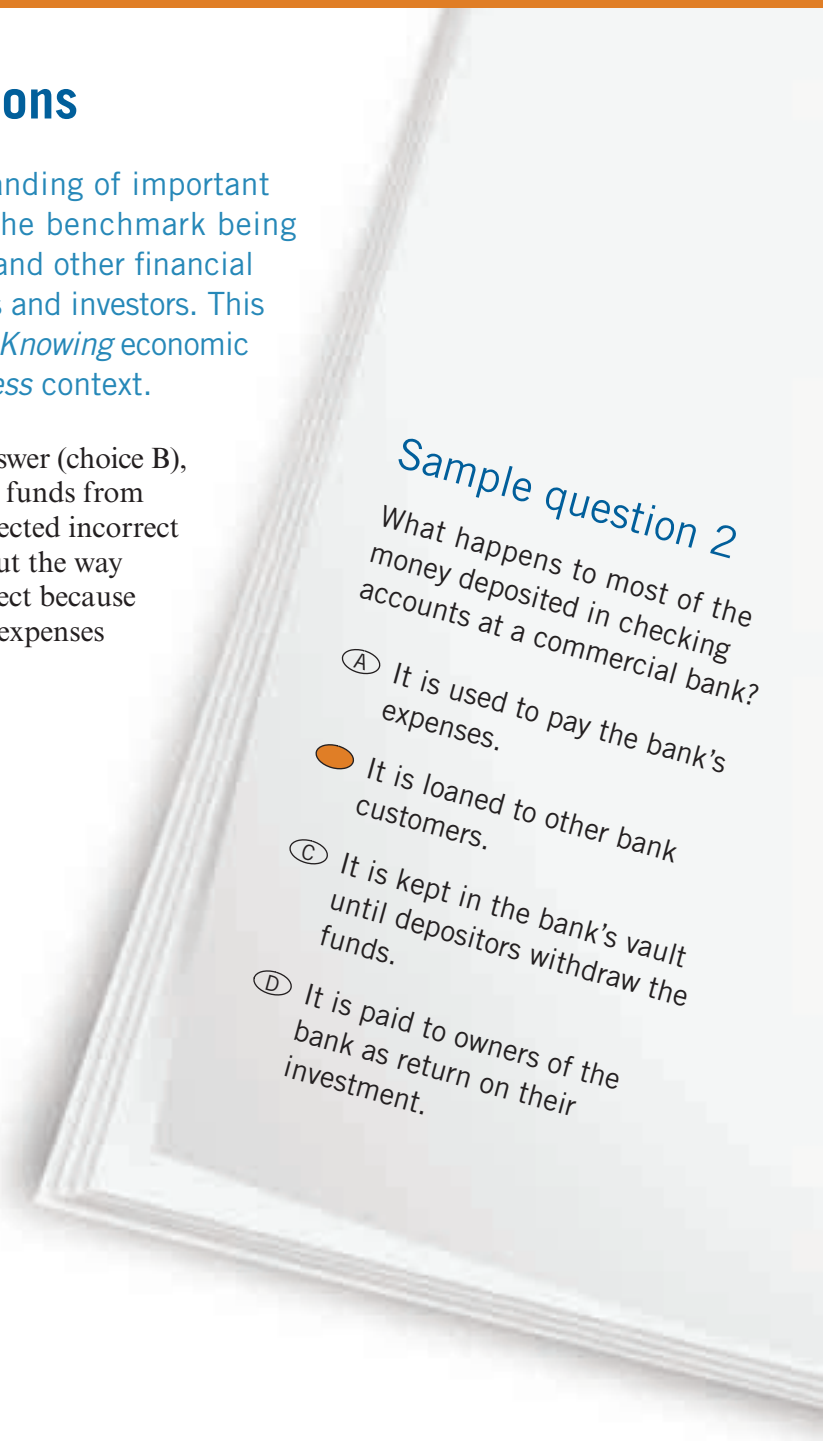
Sample question 2 measures students' understanding of important institutions that facilitate a market economy. The benchmark being assessed by this question focuses on how banks and other financial institutions channel funds from savers to borrowers and investors. This question was classified in the cognitive category of *Knowing* economic information, terms, and concepts within a *Business* context.

Fifty-two percent of 12th-graders selected the correct answer (choice B), which describes the bank's financial role in transferring funds from savers to borrowers. The 35 percent of students who selected incorrect choice C reflects a common student misconception about the way commercial banks operate. Choices A and D are incorrect because banks charge interest on money loaned in order to pay expenses and to provide owners a return on their investment.

Percentage of 12th-grade students in each response category in 2006

Choice A	Choice B	Choice C	Choice D	Omitted
8	52	35	4	#

Rounds to zero.
NOTE: Detail may not sum to totals because of rounding.



The table on the right shows the percentage of students within each achievement level who answered the question above correctly. For example, 44 percent of 12th-grade students at the *Basic* level selected the correct answer choice.

Percentage correct for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
28	44	69	90

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About Decision Making

Sample question 3 measures students' abilities to use economic data to make decisions. The benchmark being assessed by this question focuses on comparing the marginal benefits and marginal costs of potential production decisions in order to maximize profits. This question was classified in the cognitive category of using economic *Reasoning* concepts within a *Business* context.

NXTX should hire additional workers as long as the revenue generated by the goods produced by each additional worker is greater than the cost of hiring that worker. Thirty-six percent of 12th-graders selected the correct answer (choice A). If NXTX increases the number of workers hired from 10 to 11, its generated revenues would increase by $250 ($1,250 – $1,000), and its costs would only increase by $100 a day, so its profits would increase by $150 per day. However, if the firm hires the 12th worker (choice B), revenues for the firm would increase by $75 ($1,325 – $1,250), costs would increase by $100, and profits would decline by $25. Choices C and D would also result in the firm's revenues increasing less than its costs, and profits would decline.

Percentage of 12th-grade students in each response category in 2006

Choice A	Choice B	Choice C	Choice D	Omitted
36	17	10	36	1

NOTE: Detail may not sum to totals because of rounding.

Sample question 3

NXTX INCORPORATED

Number of Workers	Total Revenue per Day
10	$1,000
11	$1,250
12	$1,325
13	$1,385
14	$1,400

NXTX Incorporated currently has 10 workers. It would like to expand and hire more workers. Each additional worker will cost the company $100 per day. According to the information in the table above, how many workers in total should NXTX Incorporated employ to maximize its profits?

- A 11
- B 12
- C 13
- D 14

The table on the right shows the percentage of students within each achievement level who answered the question above correctly. For example, 24 percent of 12th-grade students at the *Basic* level selected the correct answer choice.

Percentage correct for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
17	24	53	94

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About Prices

Sample question 4 measures students' ability to interpret a supply and demand graph to determine the effect of a price control upon a market. The benchmark being assessed by this question focuses on the effects of government-enforced price ceilings and price floors upon producers and consumers. This question was classified in the cognitive category of *Applying* economic information and concepts within a *Public* context.

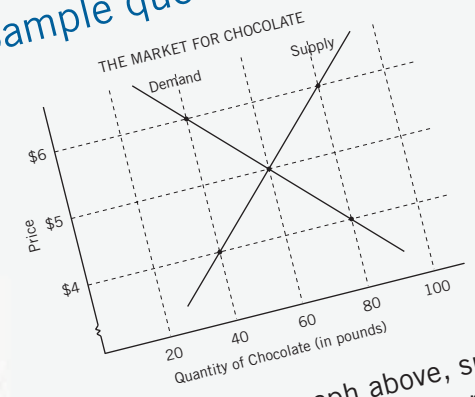
Forty-six percent of 12th-graders selected the correct answer (choice A). At a price of $6, consumers would be willing and able to buy 40 pounds of chocolate, but producers would be willing and able to supply 80 pounds, thus creating a surplus of 40 pounds of chocolate. Choice B is incorrect because *more* chocolate would be demanded by consumers at $4 than at $6. Choice C is incorrect because producers could sell more chocolate at a higher price and make more profit if the price was $5 rather than $4. Choice D is incorrect because it describes an opposite effect (a market shortage) from the correct answer (a market surplus).

Percentage of 12th-grade students in each response category in 2006

Choice A	Choice B	Choice C	Choice D	Omitted
46	20	22	12	1

NOTE: Detail may not sum to totals because of rounding.

Sample question 4



Referring to the graph above, suppose that the government set the price of chocolate at $6 per pound. Which of the following statements best describes an effect of this price control?

- (A) There would be a surplus of 40 pounds of chocolate.
- (B) Less chocolate would be demanded at $4 than at $6.
- (C) Producers of chocolate would want the price set at $4.
- (D) There would be a shortage of 20 pounds of chocolate.

The table on the right shows the percentage of students within each achievement level who answered the question above correctly. For example, 36 percent of 12th-grade students at the *Basic* level selected the correct answer choice.

Percentage correct for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
27	36	61	86

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

National Economy

The national economy content area includes much of what is traditionally described as macroeconomics. It focuses on the behavior of the economy as a whole—the sum of the economic decisions made by individuals, businesses, and government. Key concepts include

- the factors that cause changes in inflation, unemployment, output, and growth;
- the role of money and interest rates in an economy; and
- the mechanics and appropriate uses of Federal Reserve monetary policies and government fiscal policies.

Range of National Economy Questions

The item map below, which shows a range of national economy questions, helps to explain what it means to perform at various levels on the assessment. The 0–300 economics scale and the scores that define the lower boundaries of each achievement level are along the left side. The right side lists selected multiple-choice (in *italic* type) and constructed-response questions (in regular type) that fall at various levels of difficulty on the scale.

Constructed-response questions for which students could earn partial or complete credit appear on the map multiple times, once for each level of credit. For example, a partial explanation of the effect of an increase in real interest rates on consumers' borrowing appears at 161 on the scale, and a complete explanation appears at 197.

The sample questions that follow illustrate knowledge and skills assessed related to national economy. However, they do not represent the entire range of content assessed in this area.

Grade 12 NAEP Item Map for National Economy

	Scale score	Question description
	300	
	~	
Advanced	275	Provide a superior analysis of how a change in the unemployment rate affects income, spending, and production (shown on page 21)
	260	Provide two factors explaining why one country's per capita gross domestic product is greater than another country's
	258	*Recognize components of the United States' basic money supply*
	217	*Identify a monetary policy tool of the Federal Reserve*
	211	Provide a satisfactory analysis of how a change in the unemployment rate affects income, spending, and production (shown on page 21)
	208	
Proficient	207	*Identify the federal government's primary source of revenue* (shown on page 20)
	201	*Identify real per capita gross domestic product as the best measure for comparing nations' material standards of living*
	200	*Identify how changes in wages relative to changes in inflation affect purchasing power*
	197	Provide a complete explanation of the effect of an increase in real interest rates on consumers' borrowing (shown on page 19)
	192	*Recognize two fiscal policies a government can use to stimulate the economy in a recession*
	181	Provide one factor explaining why one country's per capita gross domestic product is greater than another country's
	181	*Identify a group of people who could be hurt by unexpected inflation*
	166	*Identify factors that lead to an increase in the national debt* (shown on page 18)
	161	Provide a partial explanation of the effect of an increase in real interest rates on consumers' borrowing (shown on page 19)
	160	
Basic	155	Provide a minimal analysis of how a change in the unemployment rate affects income, spending, and production (shown on page 21)
	154	*Determine a probable result of investments in human capital on economic growth*
	143	*Recognize the relationship between one's credit history and the interest rate financial institutions charge for loans*
	137	*Recognize a likely result on businesses and workers when consumers increase their purchases*
	123	
	110	*Recognize the main way local governments in the United States generate revenue*
	90	*Recognize that interest represents the cost of a loan*
	~	
	0	

NOTE: The position of a question on the composite scale represents the average scale score attained by students who had a 65 percent probability of obtaining credit at a specific level of a constructed-response question, or a 74 percent probability of correctly answering a four-option multiple-choice question.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About Fiscal Policy

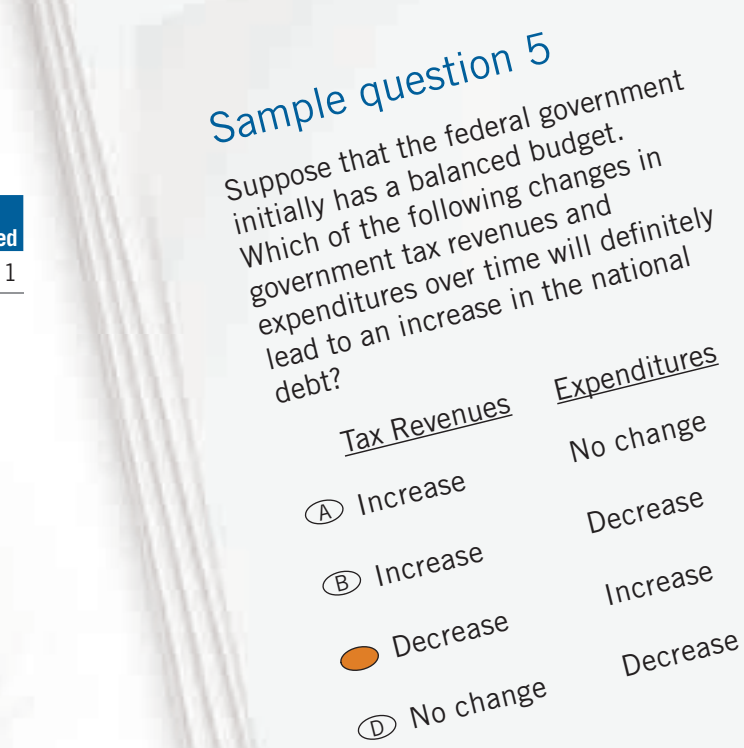
Sample question 5 measures students' understanding of the federal government's fiscal policy. The benchmark being assessed with this question focuses on the calculation of the national debt, which can be defined as the total amount of money the federal government owes. This question was classified in the cognitive category of *Applying* economic information and concepts within a *Public* context.

Sixty percent of 12th-graders selected the correct answer (choice C). When the federal government's expenditures exceed its revenues during a specified time, the government's budget will be in deficit and the national debt will increase. The changes described in choices A, B, and D are incorrect because they will lead to a budget surplus and a decrease in the national debt.

Percentage of 12th-grade students in each response category in 2006

Choice A	Choice B	Choice C	Choice D	Omitted
12	23	60	5	1

NOTE: Detail may not sum to totals because of rounding.



The table on the right shows the percentage of students within each achievement level who answered the question above correctly. For example, 45 percent of 12th-grade students at the *Basic* level selected the correct answer choice.

Percentage correct for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
33	45	85	100

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

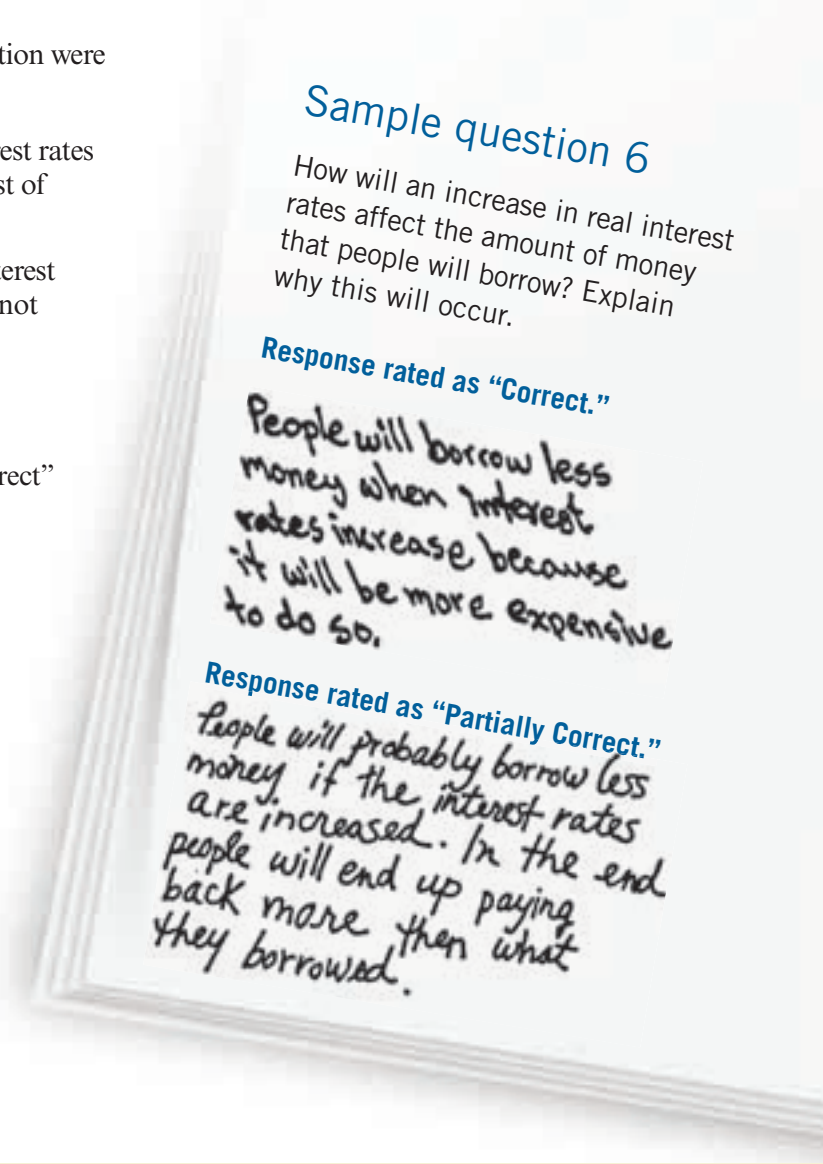
Sample Question About Interest Rates

Sample question 6 measures students' understanding of how changes in real interest rates—that is, the current market interest rate minus the expected rate of inflation—would affect the quantity of loans demanded. The benchmark being assessed by this question focuses on how higher or lower real interest rates provide different incentives to borrowers or savers. This question was classified in the cognitive category of using economic *Reasoning* concepts within an *Individual/Household* context.

Student responses for this short constructed-response question were rated using the following three-level scoring guide:

- **Correct**—Response indicates that an increase in real interest rates would cause people to borrow less money because the cost of the loan would be higher.
- **Partially Correct**—Response indicates that higher real interest rates would cause people to borrow less money, but does not offer an appropriate explanation why.
- **Incorrect**—Response fails to indicate that an increase in interest rates would cause people to borrow less money.

The first student response on the right was rated as "Correct" because it indicated that the amount of borrowing would decrease and gave an appropriate explanation for why this would happen. The second student response was rated as "Partially Correct." Although the response indicated that people would borrow less, the explanation for the decrease in the amount of borrowing states a fact that is true of *any* loan and does not address the concept that higher loan prices cause a decrease in the quantity of loans demanded. Thirty-three percent of 12th-graders answered this question correctly, and an additional 24 percent gave a partially correct response.



Percentage of 12th-grade students in each response category in 2006

Correct	Partially Correct	Incorrect	Omitted
33	24	32	8

NOTE: Detail may not sum to totals because a small percentage of responses that did not address the assessment task are not shown.

The table on the right shows the percentage of students within each achievement level whose answer to the question above was rated as "Correct." For example, 24 percent of 12th-grade students at the *Basic* level provided a response rated as "Correct."

Percentage rated as "Correct" for 12th-grade students at each achievement level in 2006

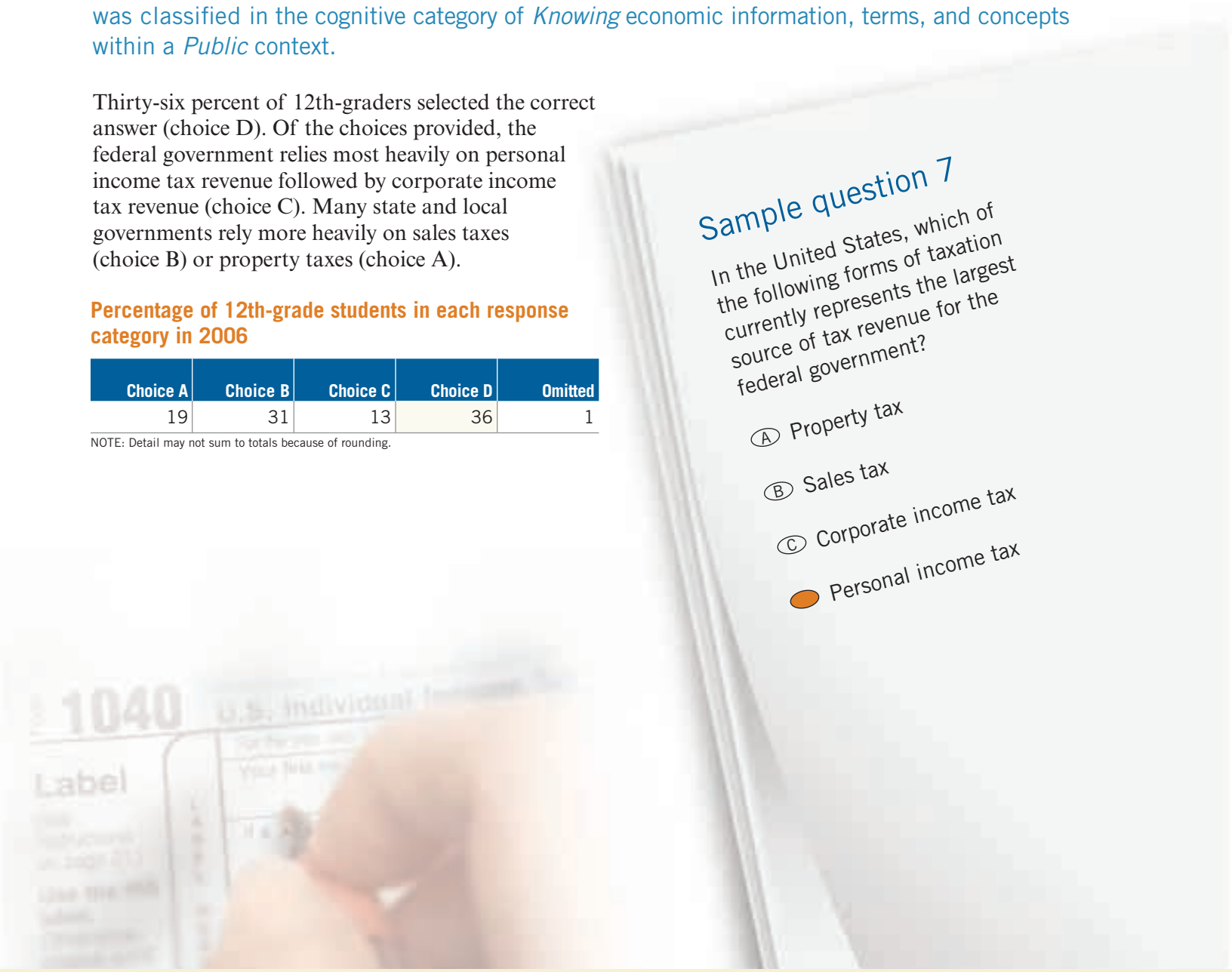
Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
4	24	53	‡

‡ Reporting standards not met. Sample size is insufficient to permit a reliable estimate.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About the Economic Role for Government

Sample question 7 measures students' understanding of concepts related to the fiscal policies of the federal government. The benchmark being assessed with this question focuses on the federal government's main sources of revenue and major spending programs. This question was classified in the cognitive category of *Knowing* economic information, terms, and concepts within a *Public* context.

Thirty-six percent of 12th-graders selected the correct answer (choice D). Of the choices provided, the federal government relies most heavily on personal income tax revenue followed by corporate income tax revenue (choice C). Many state and local governments rely more heavily on sales taxes (choice B) or property taxes (choice A).



Percentage of 12th-grade students in each response category in 2006

Choice A	Choice B	Choice C	Choice D	Omitted
19	31	13	36	1

NOTE: Detail may not sum to totals because of rounding.

The table on the right shows the percentage of students within each achievement level who answered the question above correctly. For example, 27 percent of 12th-grade students at the *Basic* level selected the correct answer choice.

Percentage correct for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
24	27	48	‡

‡ Reporting standards not met. Sample size is insufficient to permit a reliable estimate.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

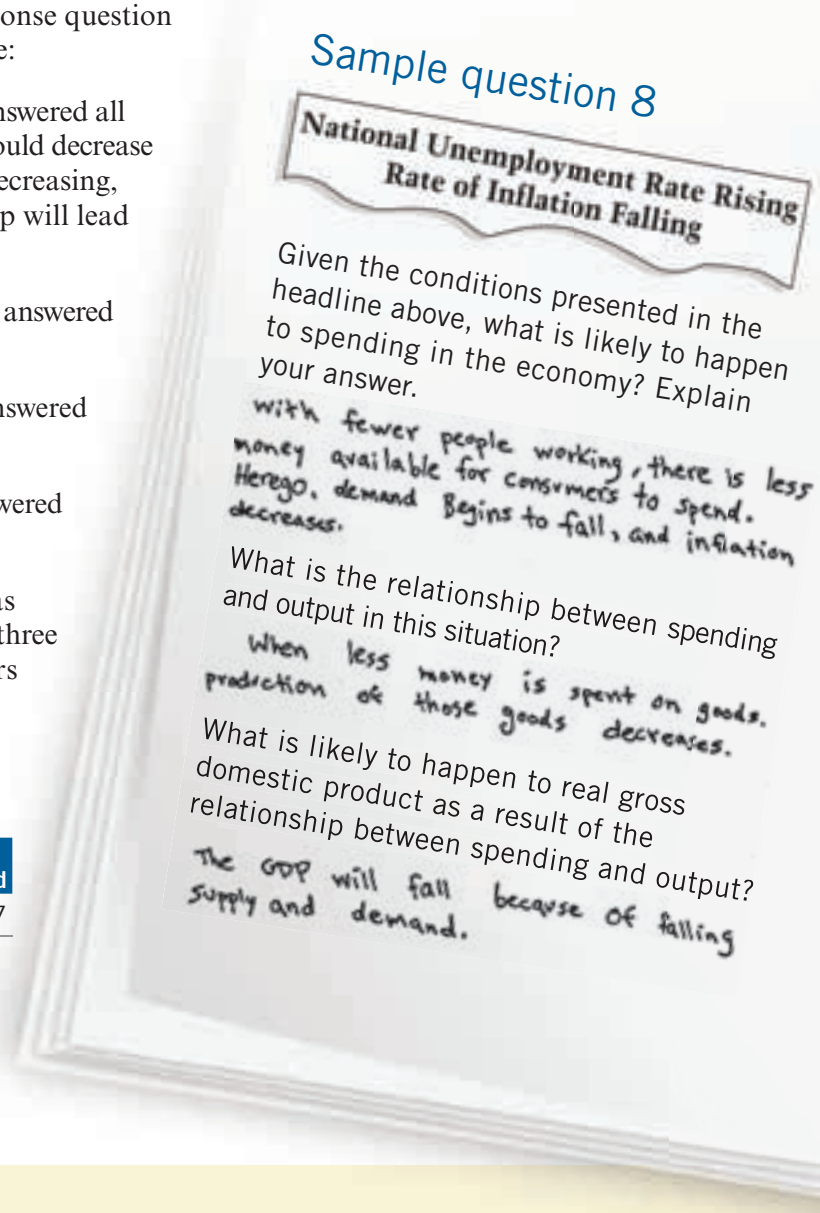
Sample Question About Gross Domestic Product

Sample question 8 measures students' understanding of the relationships between changes in employment, income, spending, and production in the economy. The benchmark being assessed by this question focuses on factors that can cause changes in gross domestic product, inflation, and employment. This question was classified in the cognitive category of using economic *Reasoning* concepts within a *Public* context.

Student responses for this extended constructed-response question were rated using the following four-level scoring guide:

- **Superior**—Responses were those in which students answered all three parts of the question correctly: (A) Spending would decrease because income is falling; (B) Because spending is decreasing, businesses will cut output; and (C) This relationship will lead to a reduction in real gross domestic product.
- **Satisfactory**—Responses were those in which students answered two parts of the question correctly.
- **Minimal**—Responses were those in which students answered one part of the question correctly.
- **Incorrect**—Responses were those in which students answered none of the parts of the question correctly.

The sample student response on the right was rated as "Superior" because it supplied correct answers for all three parts of the question. Eleven percent of 12th-graders provided a "Superior" response.



Percentage of 12th-grade students in each response category in 2006

Superior	Satisfactory	Minimal	Incorrect	Omitted
11	20	31	29	7

NOTE: Detail may not sum to totals because a small percentage of responses that did not address the assessment task are not shown.

The table on the right shows the percentage of students within each achievement level whose answer to the question above was rated as "Superior." For example, 6 percent of 12th-grade students at the *Basic* level provided a response rated as "Superior."

Percentage rated as "Superior" for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
1	6	19	52

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

International Economy

The international economy content area focuses on international trade—how individuals and businesses interact with foreign markets. Key concepts include

- the reasons for individuals and businesses to specialize and trade;
- the comparison of benefits and costs of specialization and trade for consumers, producers, and governments; and
- the factors that influence exchange rates and the effects of exchange rates on individuals.

Range of International Economy Questions

The item map below, which shows a range of international economy questions, helps to explain what it means to perform at various levels on the assessment. The 0–300 economics scale and the scores that define the lower boundaries of each achievement level are along the left side. The right side lists selected multiple-choice (in *italic* type) and constructed-response questions (in regular type) that fall at various levels of difficulty on the scale. No questions are shown that fall below the *Basic* level because there were no questions related to international economy with a difficulty level below 123.

Constructed-response questions for which students could earn partial or complete credit appear on the map multiple times, once for each level of credit. For example, a partial explanation of how a change in exchange rates affects purchasing power appears at 178 on the scale, and a complete explanation appears at 250.

The sample questions that follow illustrate knowledge and skills assessed related to international economy. However, they do not represent the entire range of content assessed in this area.

Grade 12 NAEP Item Map for International Economy

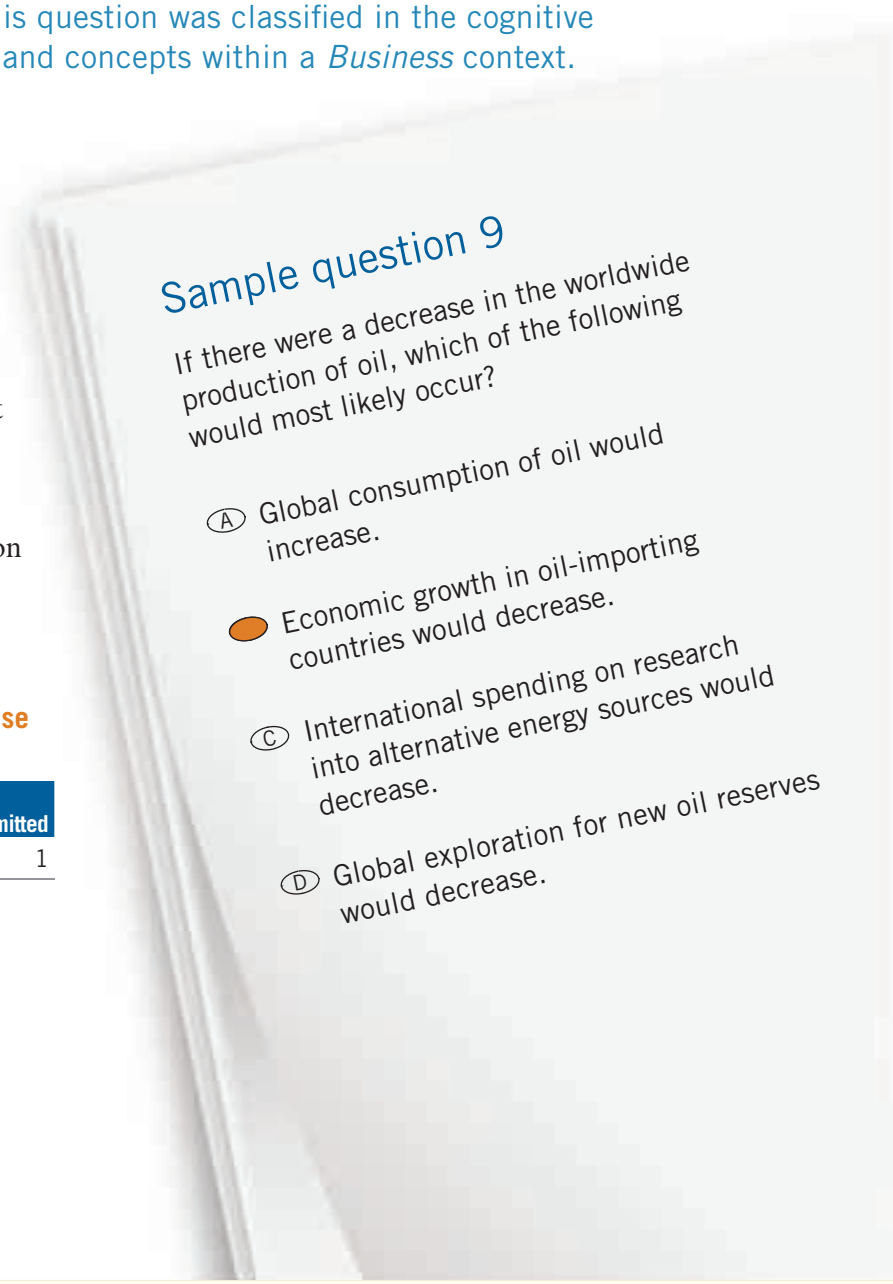
	Scale score	Question description
	300	
Advanced	286	Provide a superior analysis of issues related to the imposition of a tariff
	279	*Analyze data to determine comparative advantage*
	253	*Determine why industries can successfully lobby for tariff protection* (shown on page 27)
	250	Provide a complete explanation of how a change in exchange rates affects purchasing power
	230	*Identify how investment in education can impact economic growth* (shown on page 26)
	213	*Determine how changes in exchange rates affect exports and imports of countries*
	208	
Proficient	202	*Determine a result of increased trade and specialization*
	193	*Determine a result of removing trade barriers between two countries* (shown on page 25)
	188	Provide a satisfactory analysis of issues related to the imposition of a tariff
	187	*Determine how economic growth can help reduce the poverty level*
	178	Provide a partial explanation of how a change in exchange rates affects purchasing power
	172	*Recognize how a change in the price of a resource in one country affects production in another country*
	167	*Determine the impact of a decrease in oil production on oil-importing countries* (shown on page 24)
	163	*Select the correct definition of an exchange rate*
	160	
Basic	158	Provide a partial analysis of issues related to the imposition of a tariff
	151	*Identify a result of limiting imports*
	136	*Identify one benefit of voluntary trade between people in different countries*
	133	Provide a minimal analysis of issues related to the imposition of a tariff
	123	
	0	

NOTE: The position of a question on the composite scale represents the average scale score attained by students who had a 65 percent probability of obtaining credit at a specific level of a constructed-response question, or a 74 percent probability of correctly answering a four-option multiple-choice question.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About Trade

Sample question 9 measures students' understanding of how a change in the production of a natural resource affects economic growth in an interdependent global economy. The benchmark being assessed by this question focuses on how conditions and policies in one nation affect conditions and policies in other nations. This question was classified in the cognitive category of *Applying* economic information and concepts within a *Business* context.

Sixty-three percent of 12th-graders correctly concluded that a decrease in the worldwide production of oil would lead to a decrease in economic growth in oil-importing countries (choice B). In this situation, the cost of oil used in oil-importing countries would increase, leading to an increase in the cost of producing goods and services in these countries, and, ultimately, a decrease in economic growth. Choice A is incorrect because a decrease in oil production would lead to an increase in the price of oil and, therefore, a decrease in global consumption. Choices C and D are incorrect because both international spending on research into alternative energy sources and global exploration for new oil reserves would most likely increase.



Percentage of 12th-grade students in each response category in 2006

Choice A	Choice B	Choice C	Choice D	Omitted
24	63	6	6	1

NOTE: Detail may not sum to totals because of rounding.

The table on the right shows the percentage of students within each achievement level who answered the question above correctly. For example, 56 percent of 12th-grade students at the *Basic* level selected the correct answer choice.

Percentage correct for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
37	56	81	‡

‡ Reporting standards not met. Sample size is insufficient to permit a reliable estimate.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About Voluntary Exchange

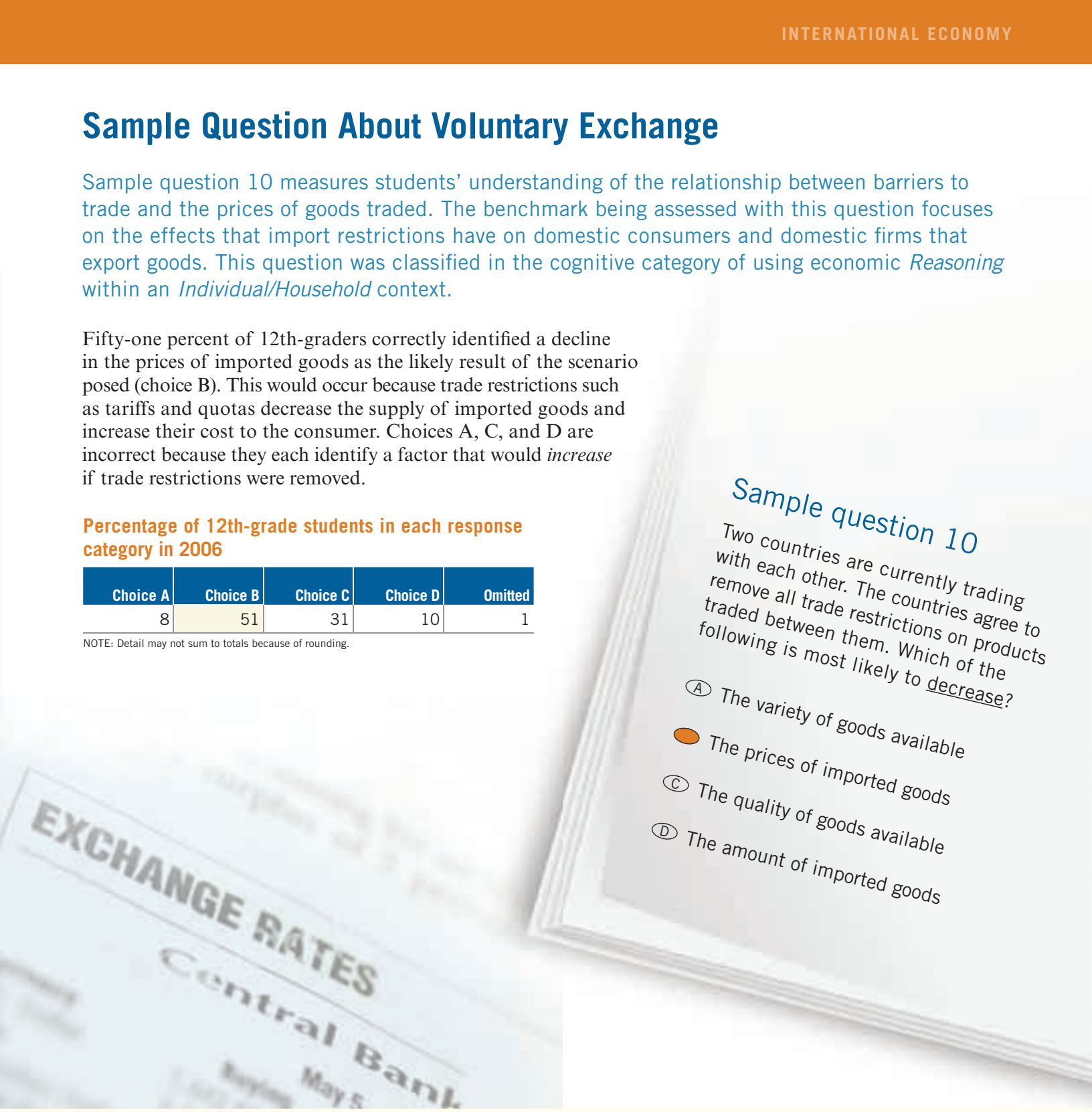
Sample question 10 measures students' understanding of the relationship between barriers to trade and the prices of goods traded. The benchmark being assessed with this question focuses on the effects that import restrictions have on domestic consumers and domestic firms that export goods. This question was classified in the cognitive category of using economic *Reasoning* within an *Individual/Household* context.

Fifty-one percent of 12th-graders correctly identified a decline in the prices of imported goods as the likely result of the scenario posed (choice B). This would occur because trade restrictions such as tariffs and quotas decrease the supply of imported goods and increase their cost to the consumer. Choices A, C, and D are incorrect because they each identify a factor that would *increase* if trade restrictions were removed.

Percentage of 12th-grade students in each response category in 2006

Choice A	Choice B	Choice C	Choice D	Omitted
8	51	31	10	1

NOTE: Detail may not sum to totals because of rounding.



The table on the right shows the percentage of students within each achievement level who answered the question above correctly. For example, 43 percent of 12th-grade students at the *Basic* level selected the correct answer choice.

Percentage correct for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
31	43	66	‡

‡ Reporting standards not met. Sample size is insufficient to permit a reliable estimate.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About Investment, Productivity, and Growth

Sample question 11 measures students' understanding of the relationships among investment in human capital, productivity, and growth when analyzing and comparing the economies of different countries. The benchmark being assessed with this question deals with reasons why economic growth rates vary across countries. This question was classified in the cognitive category of *Knowing* economic information, terms, and concepts within a *Context-free* scenario.

Thirty-two percent of 12th-graders correctly selected choice A, which describes one factor that leads to increased productivity and growth. Choices B and D are incorrect because they describe factors that are unrelated to economic growth. Choice C is incorrect because higher taxes on businesses could have a potential negative effect on economic growth.

Percentage of 12th-grade students in each response category in 2006

Choice A	Choice B	Choice C	Choice D	Omitted
32	40	23	4	1

NOTE: Detail may not sum to totals because of rounding.

Sample question 11

Country X and Country Y have similar populations and natural resources. Which of the following best explains why Country X would have a higher rate of economic growth than Country Y?

- (A) Country X invests more in education.
- (B) Country X imports more consumer goods.
- (C) Country X places higher taxes on businesses.
- (D) Country X pays larger salaries to government officials.

The table on the right shows the percentage of students within each achievement level who answered the question above correctly. For example, 24 percent of 12th-grade students at the *Basic* level selected the correct answer choice.

Percentage correct for 12th-grade students at each achievement level in 2006

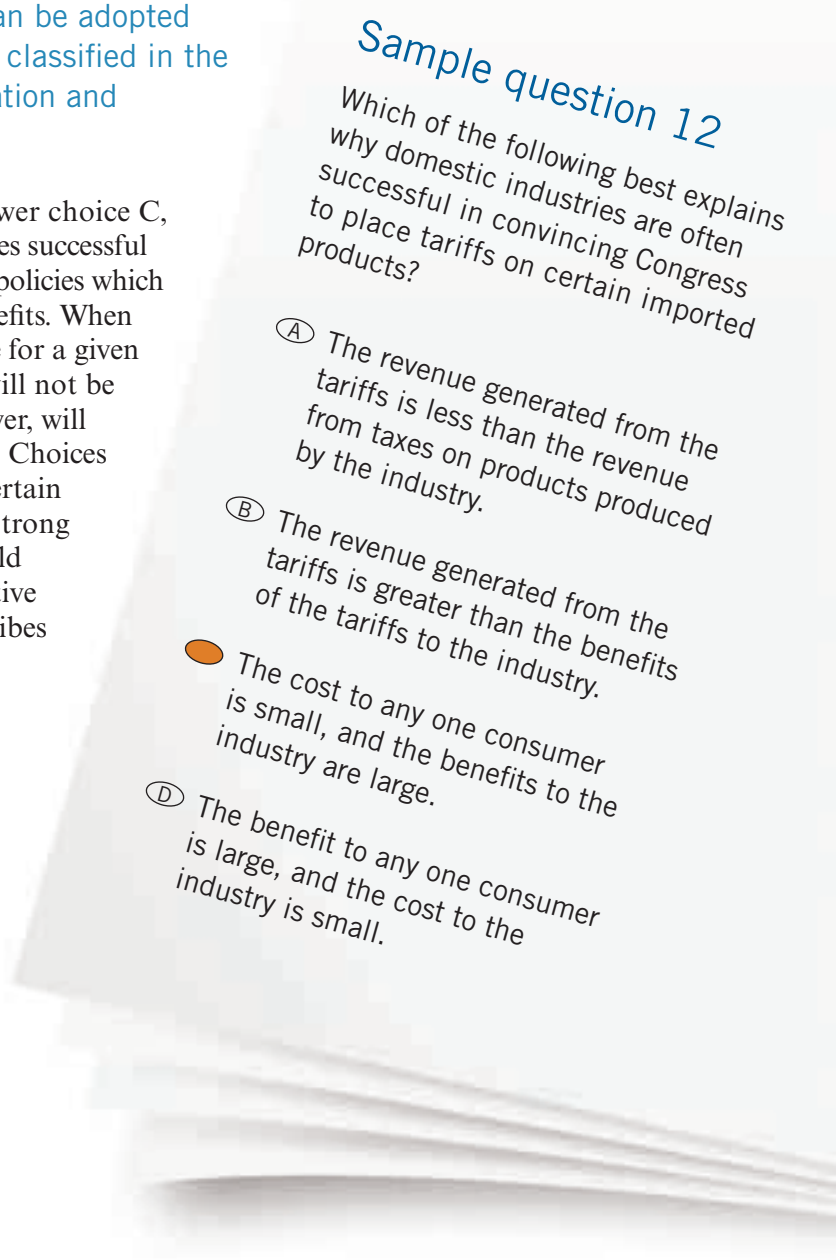
Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
18	24	43	83

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Sample Question About Government Decision Making

Sample question 12 measures students' understanding of the factors that can influence governments' decision making with regard to economic policies. The benchmark being assessed with this question focuses on why barriers to trade can be adopted through the political process. This question was classified in the cognitive category of *Applying* economic information and concepts within a *Public* context.

Forty percent of 12th-graders correctly selected answer choice C, which describes a reason why some groups are sometimes successful in convincing government officials to pursue economic policies which impose costs on the general public that exceed the benefits. When consumers individually pay only a slightly higher price for a given product due to a tariff, the full impact of the tariff will not be recognized by them. A given domestic industry, however, will more easily recognize the benefits of the tariff to itself. Choices A and B are incorrect because they fail to show why certain groups who would benefit from tariffs would have a strong incentive to support them, while the groups who would bear the costs of the tariffs would lack a strong incentive to oppose them. Choice D is incorrect because it describes the opposite rationale from the correct answer.



Percentage of 12th-grade students in each response category in 2006

Choice A	Choice B	Choice C	Choice D	Omitted
16	32	40	12	#

Rounds to zero.
NOTE: Detail may not sum to totals because of rounding.

The table on the right shows the percentage of students within each achievement level who answered the question above correctly. For example, 35 percent of 12th-grade students at the *Basic* level selected the correct answer choice.

Percentage correct for 12th-grade students at each achievement level in 2006

Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
31	35	46	76

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2006 Economics Assessment.

Technical Notes

Sampling and Weighting

The schools and students who participated in NAEP assessments were chosen to form a sample representative of the nation. This sample was selected using a stratified, three-stage design that involved sampling students from selected schools within selected geographic units from across the country, including public schools, private schools, Bureau of Indian Affairs schools, and Department of Defense schools. More information on sampling can be found at http://nces.ed.gov/nationsreportcard/about/nathow.asp.

Each school that participated in the assessment, and each student assessed, represented a portion of the population of interest. Results were weighted to make appropriate inferences between the student samples and the respective populations from which they were drawn. Sampling weights accounted for the disproportionate representation of the selected sample, for the oversampling of students who attended schools with high concentrations of minority students, and for the lower sampling rates of students who attended very small schools.

Participation, Exclusion, and Accommodation Rates

The school participation rate for the grade 12 economics assessment was 79 percent (83 percent for public schools and 41 percent for private schools). The student participation rate for economics was 73 percent (72 percent for students in public schools and 87 percent for students in private schools). To ensure unbiased samples, NCES statistical standards require that nonresponse bias analyses be conducted for any school or student group with a participation rate that falls below 85 percent. The results showed that school substitution and nonresponse adjustments were effective in reducing the observable nonresponse bias for public and private schools and for public school students.

A NAEP/Governing Board reporting rule requires that public/private and regional student groups will not be reported if the initial school participation rate falls below 70 percent. This requirement for the grade 12 economics assessment was not met for private schools, for any subcategory of private schools, or for schools in the western region; therefore, data for these groups are not provided in this report or on the NAEP website.

Of the students identified to participate in the economics assessment, 3 percent were excluded because they could not be meaningfully tested, and 6 percent were assessed using accommodations such as a small group administration or extended time.

Results by Type of School Location

NAEP results are reported for four mutually exclusive categories of school location based on standard definitions established by the federal Office of Management and Budget using population and geographic information from the U.S. Census Bureau. Definitions of terms used below may be found at http://nces.ed.gov/ccd/commonfiles/glossary.asp.

Large city: A large city is a principal city of a Metropolitan Core Based Statistical Area (CBSA), with the city having a population of 250,000 or greater.

Mid-size city: A mid-size city is a principal city of a Metropolitan CBSA, with the city having a population of less than 250,000.

Urban fringe/large town: An urban fringe is a place or other area within a Metropolitan CBSA of a large or mid-size city that is defined as urban by the Census Bureau. A large town is a place with a population of 25,000 or greater and located outside a Metropolitan CBSA or inside a Micropolitan CBSA.

Small town/rural: A small town is a place with a population of at least 2,500 but less than 25,000 that is located outside a Metropolitan CBSA or inside a Micropolitan CBSA. A rural area is a place or other area not within a Metropolitan CBSA or within a Micropolitan CBSA, or a place or area within a Metropolitan CBSA that is defined as rural by the Census Bureau.

Interpreting Statistical Significance

Comparisons between groups of students are based on statistical tests that consider both the size of the differences and the standard errors of the two statistics being compared. Standard errors are margins of error, and estimates based on smaller samples are likely to have larger margins of error. The size of the standard errors may also be influenced by other factors such as how representative the assessed students are of the entire population. When an estimate has a large standard error, a numerical difference that seems large may not be statistically significant. Differences of the same magnitude may or may not be statistically significant depending upon the size of the standard errors of the statistics. Standard errors for the NAEP scores and percentages presented in this report are available at http://nces.ed.gov/nationsreportcard/nde/.

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