

A National Study of U.S. High School Student Achievement in Economics Over Time

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This paper presents the results from a longitudinal study of the National Assessment of Educational Progress (NAEP) in economics. The National Center for Education Statistics in the U.S. Department of Education administered this assessment to a representative national sample of twelfth grade students attending U.S. high schools in 2006 and 2012. This study identifies the released multiple-choice items that were the same in each administration and uses them to calculate the overall scores and the sub-scores for measuring understanding of the market economy, national economy, and international economy. This item analysis reconfirms the reported national findings of essentially no change in student achievement over the six years. The study discusses the reasons this outcome and expectations for the 2022 assessment.

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JEL codes: A22

The development of assessment instruments to measure student achievement in economics improves our understanding of what works in the teaching and learning of economics and advances research on economic education in the schools. The assessments help classroom teachers evaluate student achievement in economics and offer students feedback on what they understand or do not understand. These instruments also give researchers a standardized test to use for assessing student or teacher outcomes as they conduct studies on such topics as the effects of different teaching methods, teacher training, long-term outcomes, and comparison of student achievement in economics across nations or over time.

The oldest and most frequently used standardized instrument in the United States for classroom testing and research on economics at the high school level is the *Test of Economic Literacy*, now in its fourth edition (Walstad, Rebeck, and Butters 2013).¹ This multiple-choice exam consists of two forms, each with 45 items testing understanding of basic economic concepts. The content for the test is based on well-established standards and benchmarks for economics instruction (CEE 2010). The U.S. results shows that the TEL provides a reliable, valid, and efficient test for classroom testing and research studies in varied contexts.

These appealing features are reasons for the translation, adaption, and use of the TEL throughout the world. For example, the Waseda Institute for Economics Education, under the direction of Professor Michio Yamaoka, held a 2004 international conference on comparative studies of economic educa-

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tion in the Asia-Pacific region. The book from that influential conference includes TEL studies for Japan, Korea, New Zealand, the Philippines, and the United States (Yamaoka et al. 2007).

The other major advancement with assessment of economics in the high school curriculum in the United States is the National Assessment of Educational Progress (NAEP) in economics (Buckles and Walstad 2008). The National Center for Education Statistics (NCES) at the U.S. Department of Education administered NAEP economics for the first time in 2006 (Mead and Sandene 2007) and then again in 2012 (NCES 2013). The next NAEP economics administration is scheduled for 2022. NAEP economics assess understanding of basic economics as described in a content framework similar to one used for the TEL, but it differs from the TEL because it is not a classroom test for use by teachers or a flexible research instrument for conducting studies on various topics. Instead, NAEP economics serves as the “nation’s report card” on the economics achievement of a nationally representative sample of twelfth-grade students in U.S. public and private high schools.

Achieving this objective for NAEP economics requires the preparation of an assessment with nearly 200 items so that reliable results can be report for overall achievement and for subscores on the market economy (microeconomics), national economy (macroeconomics), and international economy. The work also entails stratified random sampling to obtain results from a representative national sample of twelfth grade U.S. high school students in public and private schools. In this work, NAEP economics follows similar complex procedures for conducting assessments in other key academic subjects taught in U.S. high schools such as mathematics, reading, science, writing, history, civics, and geography.

Unlike the TEL, few research studies focus on NAEP economics because access to the NAEP data set is restricted and the complex sampling makes the data difficult to analyze (e.g., Walstad and Buckles 2008; Walstad 2013). The two administrations of NAEP economics, however, give researchers a unique opportunity to analyze student achievement over time with two representative national samples of students (NCES 2013). This study takes advantage of that opportunity to compare the outcomes from the released multiple-choice items in 2012 with the results from those same items in the 2006. The investigation reveals whether the trend over time from the samples of test items are similar to those from the overall score or subscores.

NAEP Samples and Scores: 2006 and 2012

In 2006, data for NAEP economics were collected NAEP economics data from a nationally representative sample of 11,490 twelfth-grade students in 590 public and non-public schools to represent a target population of 3,059,000 U.S. students (Mead and Sandene 2007). In 2012, data for NAEP economics were obtained from a nationally representative sample of 10,900 twelfth-grade students in 480 public and private schools to represent a target population of 3,343,000 U.S. students (NCES 2013). The sampling procedures for NAEP involved using a three-stage design (counties, schools, and students) and then weighting the sample so the results can be used to draw valid inferences about the population of twelfth-grade students.

Table 1. Scaled Scores for NAEP Economics: 2006 and 2012

Categories	2006	S.E.	2012	S.E.	t-Statistic
Overall	150	0.9	152	0.8	1.661
Market	150	0.9	151	0.9	0.786
National	150	0.9	152	0.8	1.661
International	150	0.9	151	1.0	0.743

Table 2. Student Characteristics: Scores and Percentages for 2006 and 2012

	2006		2012		2006 Percent	2012 Percent
	Score	S.E.	Score	S.E.		
Gender						
Male	152	1.0	155	0.9	50	50
Female	148	0.9	149	0.9	50	50
Race/Ethnicity						
White	158	0.8	160	1.0	65	61
Black or African-American	127	1.2	131	1.4	13	15
Hispanic	133	1.2	138*	1.4	14	16
Asian-Pacific Islander	153	3.5	159	2.0	6	6
Am. Indian/Alaska native	137	4.1	136	4.7	1	1
Learning Disability						
Yes	116	1.9	121	1.7	7	9*
No	153	0.9	155	0.9	93	91*
English language learner						
Yes	110	3.2	101	3.4	3	3
No	151	0.8	153	0.8	97	97
Parents' education						
Did not finish high school	129	1.4	134*	1.5	7	8
Graduated high school	138	1.2	139	1.1	18	17
Some college	150	0.8	150	0.8	23	22
Graduated college	160	0.9	161	0.8	49	50
Unknown	118	2.5	122	3.5	3	3
High School Program						
Academic	160	1.0	160	1.1	54	56
General	138	1.0	142*	0.9	46	44

*Significantly different from 2006 (0.05 level).

The 2006 and 2012 NAEP economics findings were released in public reports (Mead and Sandene 2007; NCES 2013). The aggregate data are available for online access through NAEP Data Explorer (NDE).² The results are reported as scale scores on an achievement scale from 0 to 300, with the mean set at 150. Item response theory and population-structure models were used to estimate the scale scores.³ As shown in Table 1, the overall NAEP score in economics and the subscores changed little over the six years. The overall score increased by only two points, an insignificant difference. Similarly, scores for the three subsections of the assessment increased by only one to two points, also insignificant differences. What these results show is minimal improvement in the economics achievement of twelfth-grade students over the six-year period.

The focus in Table 2 turns to student characteristics and their relationship to economics scores in the 2006 and 2012 samples to identify any significant differences. These characteristics were used in

previous studies with 2006 NAEP economics (Walstad and Buckles 2008; Walstad 2013). The variables include gender, race and ethnicity, disability, English language background, parent's education, and high school program (academic versus general or vocational). These results again show minimal change in the percentages of students participating in NAEP economics students in 2006 and 2012 based on student characteristics. The only significant difference in the percentages is for students with a learning disability, but the increase was only two percentage points. Overall, the characteristics of the high school population who participated in NAEP economics in 2006 is quite similar to the high school population who participated in NAEP economics in 2012.

Also revealing from the data is the pattern in the scores associated with particular student characteristics. These NAEP scores are more sensitive to change than the percentages associated with a characteristic because they can be influenced by education or related factors. Among the demographic factors, the only significant change recorded across years was for Hispanics, who scored significantly higher by six percentage points in 2012 than in 2006. As for socio-economic characteristics, the scores of students whose parents did not finish high school were significantly higher in 2012 than in 2006. Students in a general or vocational program in high school also scored significantly higher in 2012 than in 2006. Although these changes are noteworthy, from an overall perspective, the results shows relative stability in the scores and characteristics of the two samples over the six-year period.

Multiple-Choice Analysis: 2006 and 2012

The 2006 NAEP economics contained 186 items, 87 on the market economy, 72 on the national economy and 27 on the international economy.⁴ The 2012 NAEP economics contained 192 items, 92 on the market economy, 72 on the national economy and 28 on the international economy.⁵ The distribution of test items reflects the approximate percentage of time the test specifications called for students to spend on each part of the assessment (45 percent on the market economy; 40 percent on national economy; and 15 percent on the international economy). In addition, for each assessment, about 85 percent were multiple-choice items (requiring about 60 percent of test time) and about 15 percent were short or long constructed-response items for which a student had to supply a written response (requiring about 40 percent of test time).

Another way to analyze the NAEP results is to study the percentage of correct responses for the 2012 released test items that were used in 2006 and 2012 and are *exactly the same*. This work requires access to the restricted-use data from the 2006 NAEP economics to identify same items administered in 2006 and 2012 that were released items in 2012. This item analysis offers a perspective on student achievement based on a representative sample of *actual* test items rather than relying on scaled scores estimated by IRT and population-structure models.

The potential pool of items was 59, but two adjustments reduced the set to 48 items for the comparative analysis. First, the mixing of testing formats—multiple-choice and constructed-response—confounds the analysis. The great majority of items were multiple-choice so to retain the most test infor-

Table 3. Percent Correct for Same MC Items: 2006 and 2012

Content	2006		2012		<i>t</i> -statistic*
	Percent	S.E.*	Percent	S.E.*	
Overall (n=48)	53.15	1.14	54.27	1.19	0.9457
Market (23)	60.17	0.83	61.17	1.17	0.6073
National (17)	46.71	1.11	47.71	1.19	0.6123
International (8)	46.63	1.14	48.38	1.23	1.0469

*Estimated

mation and prevent the mixing of testing formats from affecting the results, only the 50 multiple-choice items were selected and the 9 constructed-response items were eliminated. Second, two multiple-choice questions released in 2012 were excluded because they were new ones that were not used in 2006. The 48 items represent about 26 percent of all NAEP economics items and about 30 percent of just the multiple-choice items.

The AM statistical program was used to analyze the 2006 restricted-use data to calculate how students performed on these 48 items because the data on these items were not available at the NDE website.⁶ The 2006 population estimates for the item percent correct were then compared with the 2012 population estimates for item percent correct that were obtained from the NDE website. Following NAEP procedures, a *t*-test was conducted for two independent groups.⁷

An analysis similar to the scale score analysis was conducted using the item data as shown in Table 3. The overall score was estimated by averaging the percent correct across the 48 items. The mean of 53 percent in 2006 is almost identical to the mean of 54 percent in 2012, indicating that student achievement was essentially unchanged from 2006 to 2012 as measured by these 48 multiple-choice items. The scale score and multiple-choice analyses both show the same result. The item analysis also permits estimation of sub-scores for the market, national, and international economy based on the summation of the percentage correct for items in each content category. These sub-scores increased by only one percentage point from 2006 to 2012 for the market and national economy items and less than two percentage points for the international items. The differences were all insignificant as they also were for the scale scores.⁸

Table 4 shows the results of the calculation of the mean percent correct in 2006 and 2012 for all 48 items. The list includes 23 on the market economy, 17 on the national economy, and 8 on the international economy. The item difficulties in 2006 ranged from 15 percent correct to 87 percent correct. In 2012 they ranged from 14 percent correct to 89 percent correct. Although the list contains a mixture of items with a significant increase (13) or decrease (5) in percent correct, the great majority of items (30 or 63 percent) showed no significant change from 2006 to 2012. Among the items that do show a significant increase or decrease, the change was relatively modest (about 4 to 5 percentage points either way).

Appendix 1 supplies the complete wording for the same 48 items administered in 2006 and 2012.

Table 4. Percent Correct for Same MC Items: 2006 and 2012

Item	Content	2006		2012	
		Percent Correct	S.E.	Percent Correct	S.E.
1	Market	60	1.13	55*	1.0
2	Market	69	1.21	73	1.4
3	Market	42	1.29	37*	1.4
4	Market	69	0.98	69	1.1
5	Market	53	1.43	53	1.5
6	Market	69	1.34	74*	1.1
7	Market	47	1.31	42*	1.0
8	Market	52	1.38	60*	1.7
9	Market	75	0.99	78*	0.9
10	Market	78	1.11	78	0.9
11	Market	58	1.1	60	1.1
12	Market	52	1.29	52	1.0
13	Market	39	1.02	43*	1.4
14	Market	43	1.14	42	1.5
15	Market	72	1.05	73	0.9
16	Market	84	0.96	87*	1.1
17	Market	82	0.92	86*	0.7
18	Market	52	1.32	51	1.5
19	Market	53	1.22	55	1.3
20	Market	30	0.95	29	1.4
21	Market	87	0.83	89	0.6
22	Market	50	1.38	49	1.2
23	Market	68	1.21	72*	1.3
24	National	70	1.12	71	1.1
25	National	66	1.13	74*	0.9
26	National	44	1.08	42	1.3
27	National	59	1.11	59	1.2
28	National	23	0.94	22	1.1
29	National	64	1.16	66	1.5
30	National	51	1.22	56*	1.2
31	National	32	1.09	29*	1.1
32	National	36	1.14	35	1.2
33	National	42	1.11	39	1.3
34	National	57	1.02	58	1.2
35	National	44	1.15	47	1.3
36	National	53	1.27	59*	1.3
37	National	42	1.18	39*	1.1
38	National	48	1.11	53*	1.3
39	National	22	0.91	20	1.0
40	National	41	1.18	42	1.2
41	International	52	1.25	51	1.3
42	International	15	0.81	14	0.9
43	International	50	1.33	51	1.2
44	International	63	1.17	65	1.1
45	International	49	1.17	55*	1.5
46	International	45	1.06	45	1.3
47	International	44	1.26	47	1.4
48	International	55	1.05	59*	1.1

*Statistically significant at the .05 level.

Beside each test option (A, B, C, or D) in parentheses are the percentage of students who select an option with the set of percentages for 2006 reported first and followed by the percentages for 2012. The item responses contain a variety of outcomes, but the general conclusion is that there is only a minor change in response patterns from 2006 to 2012 regardless of an item difficulty. For example, the most difficult item was one on comparative advantage (#42). A likely reason for the difficulty is that the concept is not often taught to students because it is part of the international section of the course that many teachers often do not have the time to teach. What is noteworthy for this difficult item is that the percentage of correct responses is essentially unchanged from 2006 to 2012 (from 15 to 14). The least difficult item (#21) asks students to identify the equilibrium price in a supply and demand graph. The change in percent correct for this item is minor (87 to 89).

Implications and Conclusion

What is remarkable about the findings presented in this study is how stable they are over the six years. Students show about the same level of achievement each year on the overall test and on subtests with questions about the market economy, the national economy, and the international economy. This conclusion holds based on work by the NAEP economics developers to produce scale scores representing student achievement in economics across the 186 items in the 2006 assessment and the 192 items in the 2012 assessment. It also holds based on the item analysis for this study that uses only a subset of 48 multiple-choice items taken by a

representative national sample of students in 2006 and another representative national sample of students in 2012. One advantage of this subset analysis is that it permits inspection of the actual test items that were publicly released whereas most test items used to produce the NAEP scale scores are not released and based on more complex IRT analysis and population-structure models.

Attaching meaning to this no change outcomes is a difficult task. The worst outcome would have been for the scores to deteriorate over time, suggesting that there are significant problems with economics instruction in U.S. high schools. The available evidence from 2006 and 2012 does not support that conclusion. Rather, the stability in student scores over time should be interpreted as a positive development because it shows that the economics achievement of U.S. high school student is not a product of the swings in the U.S. economy that occurred because of the 2007–2009 recession or other changes in the U.S. economy or society during the two testing periods.

Other changes, however, within secondary education in the schools suggest that NAEP economics scores should have improved if more students received economics instruction over that time period. The available evidence here does show an increase in the economics instruction in the schools from 2006 to 2012. The percentage of high school graduates who had taken an economics course rose from 44 in 2005 to 58 in 2009 based on the most recently available data from high school transcripts (Walsstad and Rebeck 2012). Around this period too the number of states requiring that an economics course be taken rose from 14 in 2004 to 22 in 2011 (CEE 2018). This increase in the number of states in 2011 with a mandate suggest that the percentage of high school students who have taken an economics course increased even after 2009. The NAEP dataset also includes a variable sorting students by type of economics course taken and it shows a significant increase in the percentage taking economics courses from 2006 to 2012.⁹

What is perplexing given the increase in economics instruction in the U.S. high schools is that there is no corresponding increase in economics achievement among students. Several possible reasons may explain the outcome. It may be that there were fewer teachers, or fewer qualified teachers, available to handle the influx of students into economics classrooms. It also may be the high schools were not able to provide a sufficient number of economics courses that meet acceptable standards for economics instruction. Another factor to consider is that the type of student shifted into taking economics because of new mandates or course requirements during this period was qualitatively different and less interested in the studying economics than students taking economics in previous years. Why this dichotomy exists between the lack of change in test scores and the significant increase in percentage of U.S. high school graduates taking course work in economics remains a curious mystery to be explored in future research with the 2022 assessment.

Notes

- ¹ The TEL Examiner's Manual is available at <https://www.councilforeconed.org/resources/online-assessment-center/>
- ² <http://nces.ed.gov/nationsreportcard/naepdata/>
- ³ <http://nces.ed.gov/nationsreportcard/tdw/analysis/est.aspx>
- ⁴ https://nces.ed.gov/nationsreportcard/tdw/instruments/2006/cog_dev_econ_number2006.aspx
- ⁵ https://nces.ed.gov/nationsreportcard/tdw/instruments/2012/cog_dev_econ_number2012.aspx
- ⁶ Described at <http://am.air.org/>
- ⁷ http://nces.ed.gov/nationsreportcard/tdw/analysis/2004_2005/infer_compare2_indep.aspx
- ⁸ Estimates for the standard errors for this score analysis use an average of the standard errors of items in each of the four categories: overall, market, national, and international. It was not possible to calculate a typical standard error across a set of items in a category because not all students take each test item. To check the robustness of the results, the smallest standard error from an item in a set was used because it would offer the most conservative test for statistical significance. The result from these proxy estimations using either the average standard error across items or the minimum standard error for any one item show no statistically significant changes from 2006 to 2012.
- ⁹ The same coding procedures were used to construct this variable in 2006 and 2012, so this coursework variable is an indicator of the changes over time. There are, however, coding problems with the variable that make it unsuitable for assessing the effects of coursework on student achievement in a particular year (see Walstad 2013).

References

- Buckles, S., and W. B. Walstad. 2008. National Assessment of Educational Progress in Economics: Test framework, content specifications, and results. *Journal of Economic Education* 39(1): 100–106.
- Council for Economic Education (CEE). 2018. *Survey of the states: Economic and personal finance education in our nation's schools, 2018*. New York: CEE. <http://www.councilforeconed.org/news-information/survey-of-the-states/>
- Council for Economic Education (CEE). 2010. *Voluntary national content standards in economics*. New York: CEE. <https://www.councilforeconed.org/resource/voluntary-national-content-standards-in-economics/#sthash.8WH3mprp.dpbs>
- Mead, B., and N. Sandene. 2007. *The nation's report card: Economics 2006*. (NCES 2007–475). Washington, DC: U.S. Department of Education. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007475>
- National Center for Education Statistics (NCES). 2013. *The nation's report card: Economics 2012*. (NCES 2013–453). Washington, DC: U.S. Department of Education. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2013453>
- Walstad, W. B. 2013. Economic understanding in U.S. high school courses. *American Economic Review*. 103 (2): 659–63.
- Walstad, W. B., and S. Buckles. 2008. The National Assessment of Educational Progress in Economics: Findings for general economics. *American Economic Review*. 98(2): 541–46.
- Walstad, W. B., and K. Rebeck. 2012. Economics course enrollment in U.S. high schools. *Journal of Economic Education* 43(3): 339–47.
- Walstad, W. B., K. Rebeck, and R. Butters. 2013. The Test of Economic Literacy: Development and Results. *Journal of Economic Education* 44(3): 298–309.
- Yamaoka, M., T. Asano, S. Abe, and K. Rebeck, eds. 2007. *Comparative studies on economic education in the Asia-Pacific Region: Economic literacy in high school and university*. Tokyo: Kokusai-Bunken.

Appendix 1: MC Items with Percentage Responses by Option:

Note: For each option (A, B, C, or D) the first number in parentheses is the percentage response for 2006 and the second is for 2012. The correct answer is in bold print.

Market Economy Items

1. A headline states: "National Shortage of Nurses Reported by United States Labor Department." Which of the following would most likely reduce the nursing shortage reported in the headline?
 - A. **Increasing the wage rate of nurses** (60:55)
 - B. Opening additional hospitals in cities (13:18)
 - C. Decreasing the number of nursing school scholarships (08:09)
 - D. Raising the certification requirements for registered nurses (18:17)

MARKET FOR NOTEBOOKS

<u>Price</u>	<u>Quantity of Notebooks Supplied</u>	<u>Quantity of Notebooks Demanded</u>
\$1.00	100 units	100 units
\$2.00	125 units	75 units
\$3.00	150 units	50 units
\$4.00	175 units	25 units

2. According to the table above, what is the equilibrium price of notebooks?
 - A. **\$1.00** (69:73)
 - B. \$2.00 (17:14)
 - C. \$3.00 (09:09)
 - D. \$4.00 (04:04)

3. After watching part of a movie she rented, Samantha finds that it is not as good as she expected. Which of the following should she consider in deciding whether to continue watching the movie?
 - A. The price she paid to rent the movie (32:40)
 - B. The amount of time she already spent watching the movie (22:20)
 - C. **The activity she could do if she stopped watching the movie** (42:37)
 - D. The time it would take to return the movie (03:02)

4. Janet decides to drop out of college to work full-time. What is most likely to happen to Janet's income relative to that of a classmate who stays and graduates from college?
 - A. Janet's income will be greater than the classmate's income now and in the future. (04:04)
 - B. **Janet's income will be greater than the classmate's income now but will be lower in the future.** (69:69)
 - C. Janet's income will be lower than the classmate's income both now and in the future. (21:23)
 - D. Janet's income will be lower than the classmate's income now but will be greater in the future. (04:04)

5. Which of the following statements best explains why a large increase in the price of gasoline will result in only a small decrease in quantity demanded?
- A. Gasoline is a luxury good. (10:10)
 - B. Gasoline takes a large portion of consumers' budgets. (27:29)
 - C. Gasoline has no close substitutes. (53:53)**
 - D. Gasoline taxes remain high. (08:08)
6. Of the following, which is the most important factor in improving a country's human capital?
- A. Job training (69:74)**
 - B. Computer technology (15:11)
 - C. Factory machinery (07:10)
 - D. Highway construction (06:05)
7. As the demand for T-shirts increases and the price of T-shirts rises, how will T-shirt producers in a competitive market most likely respond?
- A. By laying off T-shirt workers to reduce production costs (09:12)
 - B. By making fewer T-shirts to meet their income goals (10:11)
 - C. By buying more cotton fabric to make more T-shirts (47:42)**
 - D. By increasing advertising spending to increase T-shirt sales (30:35)
8. Rashad wants to buy a video game and a new shirt. Each item costs \$40. Rashad has only \$40 to spend. He decides to buy the new shirt instead of the video game. The video game represents which of the following?
- A. Opportunity cost (52:60)**
 - B. Equilibrium price (10:10)
 - C. Economic efficiency (12:09)
 - D. Comparative advantage (23:21)
9. Which of the following economic roles does a government play when it provides copyright protection for recorded music?
- A. Granting property rights (75:78)**
 - B. Preventing monopoly (11:09)
 - C. Setting fiscal policy (08:08)
 - D. Providing public goods (05:05)
10. Assume that an influential new study shows that eating sweet potatoes reduces the risk of heart attacks. Which of the following is most likely to be the initial effect of the study on the sweet-potato market?
- A. The supply of sweet potatoes will increase, and the price of sweet potatoes will rise. (10:12)
 - B. The supply of sweet potatoes will decrease, and the price of sweet potatoes will fall. (06:04)
 - C. The demand for sweet potatoes will decrease, and the price of sweet potatoes will fall. (05:06)
 - D. The demand for sweet potatoes will increase, and the price of sweet potatoes will rise. (78:78)**

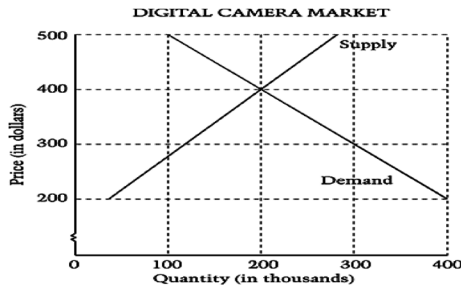
11. Which of the following is most likely to reduce the number of people who own their own homes?
- A. Removing controls on rent so that apartment rents can rise (07:05)
 - B. Increasing the property tax rates on rental property (28:29)
 - C. Eliminating tax advantages for homeowners on federal income taxes (58:60)**
 - D. Offering a discount on homeowners insurance expenses for first-time buyers (06:06)
12. Carol owns a T-shirt shop in a busy tourist town. Because she has many competitors, she has no control over the price of T-shirts. If Carol's rent for the store space doubles, which of the following is most likely to occur?
- A. Her profits will decrease. (52:52)**
 - B. Her revenues will decrease. (19:22)
 - C. Her sales of T-shirts will increase. (21:17)
 - D. Her inventory will increase. (07:09)
13. Which of the following best describes an opportunity cost for a student who chooses to quit a full-time job to go to college?
- A. Paying state and federal income tax (05:05)
 - B. Having a higher level of education (47:45)
 - C. Giving up current wages and benefits (39:43)**
 - D. Paying for housing and meals (08:07)
14. In which of the following situations would an economist recommend expanding an existing government program?
- A. When the total cost of the program is greater than the total benefits produced by the program (10:11)
 - B. When the total benefits produced by the program are greater than the total cost of the program (39:41)
 - C. When the additional benefits of expanding the program are greater than the additional costs (43:42)**
 - D. When the additional costs of expanding the program are greater than the additional benefits (06:06)
15. Last year Emery's annual salary was \$20,000. At the end of the year, Emery received a \$2,000 raise. Six months later the company increased Emery's salary again because he finished his master's degree. His new salary is \$25,000. What is the additional benefit of his having earned a master's degree?
- A. \$25,000 (05:04)
 - B. \$22,000 (05:04)
 - C. \$5,000 (16:18)
 - D. \$3,000 (72:73)**
16. A headline states: "Local School District Hires New Teachers." The headline refers to which of the following productive resources?
- A. Natural resources (02:01)
 - B. Human resources (84:87)**
 - C. Capital goods (05:07)
 - D. Renewable resources (06:04)

17. Which of the following is a characteristic of a market economy?
- A. **Prices are determined by the interaction of buyers and sellers.** (82:86)
 - B. Government determines the quantity of goods purchased. (11:09)
 - C. Tax policies are used to eliminate scarcity. (05:04)
 - D. Deregulation serves to limit most imports. (02:01)
18. Which statement best explains why all countries face the problem of scarcity?
- A. Governments spend too much money. (11:13)
 - B. Increases in inflation have an impact on economic choices. (12:12)
 - C. Changes in demand and supply occur. (25:24)
 - D. **People's wants are greater than their resources.** (52:51)

DARA'S SHOP

Number of <u>Workers</u>	Total Revenue <u>per day</u>
1	\$200
2	\$320
3	\$400
4	\$460

19. Assume that the daily wage of a worker at Dara's Shop is \$100 and that labor is the only cost of production at the shop. To earn the largest profit, how many workers should Dara hire?
- A. 1 (10:08)
 - B. **2 (53:55)**
 - C. 3 (13:11)
 - D. 4 (23:25)
20. A city currently has one recreation center to serve its young people. To reduce crime, the city is considering building a second recreation center to provide more young people with healthy alternative activities. According to economic reasoning, under what conditions should the city build a second center?
- A. If the second center is expected to be used more than half the time (08:07)
 - B. If the second center is expected to reduce the crime rate by 10% (33:34)
 - C. **When the cost of the second center is expected to be less than the benefits from it** (30:29)
 - D. When the total cost of both of the recreation centers is expected to be less than their total benefits (28:30)



21. According to the graph above, which of the following is the equilibrium price for digital cameras?
- A. \$200 (07:07)
 - B. \$300 (03:02)
 - C. \$400 (87:89)**
 - D. \$500 (02:02)
22. Which of the following is a form of business organization that offers limited liability to its owners and helps them raise financial capital?
- A. Sole proprietorship (18:18)
 - B. Monopoly (19:19)
 - C. Corporation (50:49)**
 - D. Consultancy (10:13)
23. Which of the following would give a business more control over the price of its product?
- A. A decrease in consumers' incomes (04:04)
 - B. A decrease in the number of competitors in the market (68:72)**
 - C. An increase in the number of substitute goods available (14:13)
 - D. An increase in the cost of production (11:11)

National Economy Items:

24. Spending on training and education programs for workers as a percentage of gross domestic product is greater in Country A than in Country B. Which of the following is most likely to be true over the long term?
- A. Country A's economic growth rate will be higher than Country B's. (70:71)**
 - B. Country A's interest rate will be lower than Country B's. (10:09)
 - C. Country A's trade surplus will be higher than Country B's. (12:11)
 - D. Country A's minimum-wage rate will be lower than Country B's. (07:08)
25. Which of the following changes is most likely to cause an increase in employment?
- A. An increase in consumer spending (66:74)**
 - B. An increase in interest rates (13:09)
 - C. A decrease in business investment (10:10)
 - D. A decrease in income (10:07)
26. Which of the following is most likely to cause a drop in short-term interest rates?
- A. An increase in government spending (22:20)
 - B. An increase in the money supply (44:42)**
 - C. An increase in bank reserve requirements (16:17)
 - D. An increase in the national debt (17:20)

27. How would a large increase in the number of business and personal bankruptcies over several years tend to affect the interest rates that banks charge for loans?
- A. Interest rates would fall because the supply of funds would decrease. (13:17)
 - B. Interest rates would rise because banks would find it riskier to lend funds. (59:59)**
 - C. Interest rates would stay the same because banks are not affected by bankruptcies. (11:09)
 - D. The answer cannot be determined because the government sets interest rates that banks charge for loans. (16:14)
28. Which of the following actions can the Federal Reserve take to reduce inflationary pressures in the United States?
- A. Increase government spending (15:15)
 - B. Increase the money supply (32:30)
 - C. Increase interest rates (23:22)**
 - D. Increase taxes (27:32)
29. In a market economy, most decisions about which goods and services to produce, how to produce them, and who will consume them are made primarily by which of the following?
- A. The national government (09:08)
 - B. Industry planning groups (14:11)
 - C. Local and state governments (12:14)
 - D. Consumers and producers (64:66)**
30. The federal government receives the greatest amount of tax revenue from which of the following sources?
- A. Estate taxes (06:05)
 - B. Property taxes (17:15)
 - C. Sales taxes (24:24)
 - D. Income taxes (51:56)**
31. A United States senator relies on the political support of cattle ranchers. Which position on a United States tariff on imported beef is most likely to increase the senator's support among cattle ranchers?
- A. The tariff should be decreased to increase United States cattle prices. (24:24)
 - B. The tariff should be decreased to decrease United States cattle prices. (19:21)
 - C. The tariff should be increased to increase United States cattle prices. (32:29)**
 - D. The tariff should be increased to decrease United States cattle prices. (24:26)
32. Which of the following is the most likely effect of a large decrease in total demand for goods and services?
- A. Inflation will increase and unemployment will decrease. (14:13)
 - B. Inflation will decrease and unemployment will decrease. (12:09)
 - C. Inflation will decrease and unemployment will increase. (36:35)**
 - D. Inflation will increase and unemployment will increase. (37:42)

33. What is most likely to happen following a decrease in demand for consumer loans?
- A. Interest rates will increase. (36:39)
 - B. Interest rates will decrease. (42:39)**
 - C. Federal government spending will decrease. (13:13)
 - D. Federal government spending will increase. (09:09)
34. Resource allocation in competitive markets is primarily guided by which of the following?
- A. The interaction of supply and demand (57:58)**
 - B. Regulations established by governments (20:21)
 - C. Negotiations between labor unions and management (15:14)
 - D. Investment decisions made by commercial banks (07:06)
35. Which of the following policies would most likely increase a country's long-term economic growth?
- A. Encouraging more energy consumption (09:10)
 - B. Encouraging business investment in equipment (44:47)**
 - C. Increasing government spending on retirement payments (12:10)
 - D. Increasing the growth of the money supply (34:34)
36. Which of the following conditions must Marta meet to be counted as unemployed?
- A. She must be working part-time. (02:01)
 - B. She must have been fired from her previous job. (14:13)
 - C. She must have been out of work for at least eight weeks. (31:28)
 - D. She must be out of work and actively looking for a job. (53:59)**
37. Which of the following is the most commonly used measure of inflation?
- A. Gross domestic product (37:43)
 - B. Index of Leading Economic Indicators (09:09)
 - C. Consumer price index (42:39)**
 - D. Dow Jones Industrial Average (10:08)
38. Suppose a large increase in government borrowing competes with private borrowing. What would most likely happen to interest rates and business investment?
- | | Interest | Business | |
|-----------|-----------------|-------------------|----------------|
| | <u>Rates</u> | <u>Investment</u> | |
| A. | Decrease | Decrease | (09:09) |
| B. | Decrease | Increase | (26:21) |
| C. | Increase | Decrease | (48:53) |
| D. | Increase | Increase | (16:16) |

39. Which of the following will increase the money supply in the United States?
- A. The Federal Reserve raises the discount rate. (36:35)
 - B. A company sells shares of a new stock offering. (26:28)
 - C. A customer pays a monthly credit card bill. (15:17)
 - D. A bank makes a loan to a business. (22:20)**
40. Assume that the current interest rate is 7 percent and that the current rate of inflation is 3 percent. Under these conditions, which of the following is the real interest rate?
- A. 3 percent (04:04)
 - B. 4 percent (41:42)**
 - C. 7 percent (12:11)
 - D. 10 percent (41:42)

International Economy Items:

41. Suppose that the value of the Japanese yen declines relative to the United States dollar in foreign exchange markets. United States exports to Japan and United States imports from Japan are most likely to change in which of the following ways?

	<u>U.S. Exports to Japan</u>	<u>U.S. Exports from Japan</u>	
A.	Increase	Increase	(09:08)
B.	Increase	Decrease	(28:27)
C.	Decrease	Increase	(52:51)
D.	Decrease	Decrease	(10:13)

OUTPUT OF RICE AND WHEAT PER ACRE (in bushels)

	YEAR 1			YEAR 2	
	<u>Rice</u>	<u>Wheat</u>		<u>Rice</u>	<u>Wheat</u>
Country A	100	100	Country A	60	30
Country B	80	40	Country B	40	40

42. The tables above show the amounts of rice and wheat (in bushels per acre) that Country A and Country B can produce each year over a two-year period. Which of the following statements about comparative advantage is correct?
- A. In both years, Country A has a comparative advantage in wheat. (06:05)
 - B. In both years, Country A has a comparative advantage in rice. (64:69)
 - C. From year 1 to year 2, Country B's comparative advantage shifts from wheat to rice. (14:12)
 - D. From year 1 to year 2, Country B's comparative advantage shifts from rice to wheat. (15:14)**

43. Which of the following would most likely result if the United States Congress were to place a tariff on imports of aluminum?
- A. **United States consumers would pay higher prices for goods made with aluminum.** (50:51)
 - B. The tariff would increase the United States economy's growth rate by raising productivity rates. (14:14)
 - C. An increase in costs would cause United States producers of aluminum to decrease production. (22:22)
 - D. United States manufacturers that use aluminum to produce goods would benefit. (13:12)
44. Which of the following best explains why a product once manufactured in the United States is no longer made here and is now imported from other countries?
- A. The technology needed to make the product has become less expensive in the United States. (04:04)
 - B. The technology needed to make the product has become more expensive in other countries. (07:06)
 - C. The opportunity cost of making the product in other countries has increased. (26:25)
 - D. **The opportunity cost of making the product in the United States has increased.** (63:65)
45. Which of the following is one way in which economic growth can help a nation reduce its poverty level and increase its standard of living?
- A. Economic growth increases the demand for imports, thereby raising the demand for foreign exchange. (09:11)
 - B. Economic growth increases the supply of labor, thereby increasing wages. (28:25)
 - C. Economic growth increases disposable income, thereby decreasing the demand for luxury items. (12:09)
 - D. **Economic growth increases the demand for labor, thereby raising income levels.** (49:55)
46. Which of the following must be true if a country has a comparative advantage in the production of computers?
- A. **It has a lower opportunity cost in producing computers than do its trading partners.** (45:45)
 - B. It has more workers producing computers than do its trading partners. (28:29)
 - C. It has less advanced technology in producing computers than do its trading partners. (11:10)
 - D. It imports more computers than do its trading partners. (14:15)
47. Country X and Country Y are trading partners. Country X has a comparative advantage in the production of cars. Country Y has a comparative advantage in the production of wheat. Which of the following events would most likely change the comparative advantages of these countries?
- A. **A new dam floods half the farmland in Country Y.** (44:47)
 - B. The price of bread in Country X decreases. (18:18)
 - C. Country X removes its tariff on automobiles. (18:16)
 - D. The value of Country X's currency increases. (19:19)
48. Under a flexible exchange rate system, the international value of a country's currency is determined primarily by which of the following in the foreign exchange market?
- A. The educational achievements of the country's population (07:06)
 - B. The quality and availability of the country's technology (13:13)
 - C. **The supply of and demand for the country's currency** (55:59)
 - D. The strength of the country's industries (23:23)