AP United States History

Sample Student Responses and Scoring Commentary

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- **☑** Scoring Commentary

Question 4 — Long Essay Question

Evaluate the extent to which scientific or technological innovation changed the United States economy in the period from 1950 to 2000.

Maximum Possible Points: 6

Points	Rubric	Notes
A: Thesis/Claim (0–1)	Thesis/Claim: Responds to the prompt with a historically defensible thesis/claim that establishes a line of reasoning. (1 point)	The thesis must make a historically defensible claim that establishes a line of reasoning about how scientific or technological innovation changed the United States economy from 1950 to 2000.
	To earn this point, the thesis must make a claim that responds to the prompt rather than restating or rephrasing the prompt. The thesis must consist of one or more sentences located in one place, either in the introduction or the conclusion.	 Examples that earn this point include: "Scientific and technological innovations changed the United States economy in the period 1950–2000. Due to those innovations a mass consumption culture emerged as well as a shift to service based industries." "From 1950 to 2000 scientific and technological advances and innovations heavily impacted the United States economy. The two major factors that played into this were the cold war and mass consumerism and production."
	Contextualization: Describes a broader historical context relevant to the prompt. (1 point) To earn this point, the response must relate	To earn this point, the response must accurately describe a context relevant to the ways in which scientific or technological innovation changed the United States economy in the period from 1950 to 2000.
B: Contextualization (0-1)	the topic of the prompt to broader historical events, developments, or processes that occur before, during, or continue after the time frame of the question. This point is not awarded for merely a phrase or a reference.	 Examples of context might include the following, with appropriate elaboration. World War II and the Cold War The emergence of corporate research and development departments as sources of scientific and technological innovation Federal government investment in science and technology Baby Boom/mass consumption. Automation and deindustrialization/transition to a service economy.

Question 4 — Long Essay Question (continued)

Evidence: Provides specific examples of evidence relevant to the topic of the prompt. (1 point)

To earn the first point, the response must identify specific historical examples of evidence relevant to the topic of the prompt.

OR

Supports an Argument: Supports an argument in response to the prompt using specific and relevant examples of evidence. (2 points)

To earn the second point, the response must use specific historical evidence to support an argument in response to the prompt.

Examples of evidence used might include:

- Airplanes
- Computers
- Internet
- Telephones/cell phones
- Television
- Silicon Valley
- G.I. Bill (1944)
- Apple (Steve Jobs); Microsoft (Bill Gates)
- Interstate Highway Act (1956)
- Levittowns
- Birth control pill
- Space race
- NASA
- Strategic Defense Initiative
- Polio vaccine
- Stagflation
- OPEC/oil crisis
- Trickle-down/supply-side economics
- Globalization
- Service economy
- Rust Belt
- Military-industrial complex
- Robotics
- Sun Belt
- Consumerism
- Nuclear weapons
- Cold War technology

C: Evidence (0-2)

D: Analysis and Reasoning (0-2)

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Question 4 — Long Essay Question (continued)

Historical Reasoning: Uses historical reasoning (e.g., comparison, causation, continuity, and change over time) to frame or structure an argument that addresses the prompt. (1 point)

To earn the first point, the response must demonstrate the use of historical reasoning to frame or structure an argument, although the reasoning might be uneven or imbalanced.

OR

Complexity: Demonstrates a complex understanding of the historical development that is the focus of the prompt, using evidence to corroborate, qualify, or modify an argument that addresses the question. (2 points)

To earn the second point, the response must demonstrate a complex understanding. This can be accomplished in a variety of ways, such as:

- Explaining a nuance of an issue by analyzing multiple variables
- Explaining both similarity and difference, or explaining both continuity and change, or explaining multiple causes, or explaining both causes and effects
- Explaining relevant and insightful connections within and across periods
- Confirming the validity of an argument by corroborating multiple perspectives across themes
- Qualifying or modifying an argument by considering diverse or alternative views or evidence

This understanding must be part of the argument, not merely a phrase or reference.

Examples of using historical reasoning to frame or structure an argument might include:

- Explaining how the development and evolution of particular technological innovations (such as computers or the Internet) contributed to economic changes over time
- Explanations of how some broader elements of the economy (such as capitalism or basic financial structures) demonstrated continuity over time in spite of scientific or technological changes.

OR

Demonstrating a complex understanding might include:

- Explaining a nuance of an issue by analyzing multiple variables, such as the interactions of multiple technologies that fostered economic change
- Explaining both continuity and change, such as continuities in the United States economy in addition to changes
- Explaining relevant and insightful connections within and across periods by linking scientific and technological innovation between 1950 and 2000 and between 1850 and 1900
- Confirming the validity of an argument by corroborating multiple perspectives across themes, such as linking changing trade policy to the exportation of American popular culture as a component of globalization
- Qualifying or modifying an argument by considering diverse or alternative views or evidence, such as critiques of technological change

If response is completely blank, enter - - for all four score categories: A, B, C, and D.

Question 4 — Long Essay Question (continued)

Scoring Notes

<u>Introductory notes:</u>

- Except where otherwise noted, each point of these rubrics is earned independently, e.g., a student could earn a point for evidence without earning a point for thesis/claim.
- **Accuracy:** The components of these rubrics require that students demonstrate historically defensible content knowledge. Given the timed nature of the exam, essays may contain errors that do not detract from their overall quality, as long as the historical content used to advance the argument is accurate.
- Clarity: Exam essays should be considered first drafts and thus may contain grammatical errors.
 Those errors will not be counted against a student unless they obscure the successful demonstration of the content knowledge, skills, and practices described below.

Note: Student samples are quoted verbatim and may contain grammatical errors.

A. Thesis/Claim (0-1 point)

Responses earn 1 point by responding to the prompt with a historically defensible thesis that establishes a line of reasoning about the topic. To earn this point the thesis must make a claim that responds to the prompt rather than simply restating or rephrasing the prompt. The thesis must suggest at least one main line of argument development or establish the analytic categories of the argument.

The thesis must consist of one or more sentences located in one place, either in the introduction or the conclusion.

Examples of acceptable theses:

- "Scientific and technological innovations in the 1950s to 2000 changed the United States economy by
 providing jobs and new discoveries, however, the new improvements weren't always a positive effect
 on the economy." (The response suggests a line of argument about the extent of change.)
- "Scientific advancements and new technology during 1950-2000 changed America forever, as it
 marked transition from an agricultural and industrial economy, to a more tertiary sector economy,
 which diversified America's economy." (This response sets categories for analysis that effectively address
 the prompt.)

Examples of unacceptable theses:

- "During the modern era which took place from 1950 to 2000, scientifical and technological innovations changed the whole U. S. economy in a good way." (This response is too generic.)
- "Technological innovations changed the U.S. economy in the period from 1950 to 2000 to the full extent." (This response merely restates the prompt.)

B. Contextualization (0-1 point)

Responses earn 1 point by describing a broader historical context relevant to the topic of the prompt. To earn this point, the response must accurately and explicitly connect the context of the prompt to broader

Question 4 — Long Essay Question (continued)

historical events, developments, or processes that occurred before, during, or continued after the time frame of the question. This point is not awarded for merely a phrase or reference.

To earn the point, the response must accurately describe a context relevant to the ways in which scientific or technological innovation changed the United States economy in the period from 1950 to 2000.

Examples might include the following, with appropriate elaboration:

- World War II and the Cold War as sources of scientific and technological innovation
- The emergence of corporate research and development departments as sources of scientific and technological innovation
- Federal government investment in science and technology
- Baby Boom/mass consumption
- Automation and deindustrialization/transition to a service economy

Example of acceptable contextualization:

• "When soldiers returned from the war they wanted to start families which caused the "Baby boom." Families then moved out of the city and into suburbs. Cookie-cutter house were cheap and easy to make." (This response describes a broader historical context relevant to the topic of the prompt.)

Example of unacceptable contextualization:

• "The consumers who buy these products would help businesses and provide a smooth flow in economy around 1920's–1930's when the Jazz Age was popular." (This response's attempt at contextualization is merely a phrase and lacks relevance to the topic.)

C. Evidence (0-2 points)

Evidence

Responses earn 1 point by providing at least two specific examples of evidence relevant to the topic of the prompt. Responses can earn this point without earning the point for a thesis statement.

These examples of evidence must be different from the information used to earn the point for contextualization. Typically, statements credited as **contextualization** will be more general statements that place an argument or a significant portion of it in a broader context. Statements credited as **evidence** will typically be more specific information.

Examples of evidence used might include:

- Airplanes
- Computers
- Internet
- Telephones/cell phones
- Television
- Silicon Valley
- G.I. Bill (1944)
- Apple (Steve Jobs); Microsoft (Bill Gates)
- Interstate Highway Act (1956)

Question 4 — Long Essay Question (continued)

- Levittowns
- Birth control pill
- Space race
- NASA
- Strategic Defense Initiative
- Polio vaccine
- Stagflation
- OPEC/oil crisis
- Trickle-down/supply-side economics
- Globalization
- Service economy
- Rust Belt
- Military-industrial complex
- Robotics
- Sun Belt
- Consumerism
- Nuclear weapons
- Cold War technology

Example of acceptably providing evidence relevant to the topic of the prompt:

• "For example, one of the technological innovations that changed the U.S. economy was the cookie-cutter house. When soldiers returned from the war, they started families that led to the "Baby boom".

... Cookie-cutter houses helped to show mainstream culture in the economy." (*This response cites evidence relevant to the topic, as the term "cookie-cutter houses" is a reference to Levittowns, so it earned the first evidence point, but it does not use that evidence to support a historically defensible argument about changes in the United States economy so it did not earn the second point. While responses tend to use the baby boom as historical context, this response employs it as evidence.)*

Example of unacceptably providing evidence relevant to the topic of the prompt:

• "One example would be the space race with the USSR as NASA was created and discovered the moon in 1960." (*This response did not earn a point for evidence because it is historically inaccurate.*)

OR

Supports an Argument

Responses earn 2 points if they support an argument in response to the prompt using specific and relevant examples of evidence.

Example of acceptable use of evidence to support an argument:

• "We adapted our education and expanded NASA's budget, creating a growing market for Rocket Scientists and specialized engineers. This bolstered the US economy. Suddenly more people were attending college and getting higher paying jobs." (This response connects research and development with changes in the United States economy.)

Question 4 — Long Essay Question (continued)

Example of unacceptable use of evidence to support an argument:

• "Many industries have used technology in order to make bombs and those factories needed employers. The whole economy was made into producing nukes for the Cold War. Also during this time, the U.S. and Russia were having a space station race to see who would be the first to launch a satellite (Spondnik-first Russian satellite)." (This response cites evidence relevant to the topic, so it earned the first evidence point, but it does not connect that evidence to an argument about changes in the United States economy, so it did not earn the second point for supporting an argument. In addition, the response includes historical inaccuracies that detract from the attempt to develop an argument.)

D. Analysis and Reasoning (0-2 points)

Historical Reasoning

Responses earn 1 point by using historical reasoning to frame or structure an argument that addresses the prompt. To earn this point, the response must demonstrate the use of historical reasoning to frame or structure an argument, although the reasoning might be uneven or imbalanced.

Examples of using historical reasoning might include:

- Explaining how the development and evolution of particular technological innovations (such as computers or the Internet) contributed to economic changes over time
- Explanations of how some broader elements of the economy (such as capitalism or basic financial structures) demonstrated continuity over time in spite of scientific or technological changes

Example of acceptable use of historical reasoning:

• "Eisenhower warned of the military industrial complex which Reagan amplified. When President Kennedy died, Johnson replaced him and brought in the "Great Society." This wasn't able to function due to the money going toward the Cold War." (This response earns the point for historical reasoning because it indicates changes fostered by the technological advancements of the military-industrial complex. The response indicates economic consequences for social programs caused by rising Cold War tensions.)

Example of unacceptable use of historical reasoning:

• "Technological innovations brought America to faster and more efficient ways to transport." (This sentence did not earn the point for historical reasoning because the language does not effectively explain change, continuity, comparison, or causation in regard to the United States economy.)

OR

Complexity

Responses earn 2 points for demonstrating a complex understanding of the topic, using evidence to corroborate, qualify, or modify that argument.

Demonstrating complex understanding might include:

• Explaining a nuance of an issue by analyzing multiple variables, such as the interactions of multiple technologies that fostered economic change

Question 4 — Long Essay Question (continued)

- Explaining both continuity and change such as continuities in the United States economy in addition to changes
- Explaining relevant and insightful connections within and across periods by linking scientific and technological innovation between 1950 and 2000 and between 1850 and 1900
- Confirming the validity of an argument by corroborating multiple perspectives across themes, such as linking changing trade policy to the exportation of American popular culture as a component of globalization
- Qualifying or modifying an argument by considering diverse or alternative views or evidence, such as critiques of technological change

This understanding must be part of the argument, not merely a phrase or reference.

Example of acceptable demonstration of a complex understanding:

• This response earned 2 points by explaining relevant and insightful connections within and across periods by linking technological innovations between 1950 and 2000, and between 2000 and the present day. The response provides rich context for economic changes in the latter portion of the 20th century, pointing out that "crises for oil had led to an increase in inflation, coupled with a stagnant economy under Jimmy Carter." The response set the stage for a nuanced discussion of supply-side economics as stimulus. "The industrial revolution created many low wage job for unskilled workers. On the other hand, this rise in technological innovation created a desire for innovators and people with ideas and knowledge who had higher education. This change in technology would continue to change our economy after 2000. The rise of e-commerce is a perfect example of this. Companies like Amazon would begin to sell goods over the internet in much higher quantities. This has created a type of second wave consumerism."

Example of unacceptable demonstration of a complex understanding:

This response did not earn the complexity point. Although the response attempts to explain an aspect of
communication technology, it is not specific and asserts a link to decreasing unemployment without
providing evidence to support the assertion. "Communication fostered economic growth in many aspects
of American society. Advancements in mass media allowed corporations to grow and decreased the
unemployment rate."

Mandatory	Circle one	4A
1	2 or 3 or (4)	1 of 2

From 1950 to 2000, the United States - and underd the World - expirenced the a boom in technological innovation. Set in morrow by political and social factors, including the end of world War II, scientific and technological enange led to new and integral enanges to the United States economy. While the basic structure remains The same, almost every facet has been affected by technology. New technologies tiest began to remove manufacturing jobs in the 1950s and accelerated throughout the walf-century. Automation it new Jobs and processes percure possible with the advent of industrial robots and computerized machines, Factories became more efficient then ever thus leading to job elimination in two ways! The remaind of a position due to a majornial doring it taster better, and me closure of factories because automortion laxes making other factories more efficient this job joss continuen throughout The likely period. New transport terrinologies continued globalization and led to more jab 1055. Innovations in margo and passenger air transport, along with larger snips and tankers complined with peter pipelines wealt people and goods could be moved curryed the world everyor and toster than ever, it also meant that mony corporations took their American factories and moved them to less-developed countries, where lawer was chapter this covered job 1955, especially in manufacturing. moreover, it made America very dependent on other countries for goods like oil when the OPEC countries began a gownown of oil production, new transport technologies meant it affected the US much more. Gallons of gasoline reached record-high prices However it also opened up new markets both donnestically and internationally-Fischbouler's highway system, with (mainly) in the 1950s, made moving goods domestically was much pasier. New transport also made trade with the countries life China, which Nixon began relations with much easier. These things improved the American sessiony. It shad to come it made THE US closer to its neighbors with NAFTA (signed in the 1990s), and other

Mandatory	Circle one	4A
1	2 or 3 or (4)	2 of 2

tree trade agreements. New technologies also created new industries which allowed job loss to and employment stay with Entire how sectors of the economy were created; for example, IBM and Microsoft created thousands of skilled and unskilled lobs in a sector (computing) that did not exist before 1950. In addition, covernment detense spending, because of Cold Way, was high. Both the USER and the US wanted to be seen as militarily and termsportally superior. They poured billions of dollars Into funding jobs to create and develop now technologies. For example, by The 1960s, NASA was taking up almost 4% of the US tederal bugget. They created many new technologies that carried over to the militaryindustrial and commercial sectors, like pocket-building and satulite telecommunications. Both are how job-producting, billion-dollar industries. This happened in many other circus including Army, Novy, and Air Force Spending, tunding artists I through the National Endowment for the Acts), and more One of the most important scientific advances was the creation of the birth-control pill. It now allowed women to take warrey of truly reproduction and delay giving birth in order to work. This allowed them to enter the workforce in draves; It's not coincidence that the female workforce participation More than doubled between 1950 and 7000. This major inchase in working population bousted the American oconormy. It is unreasonable to list every single technological many tram Transportant to communications, to computing, yelve jobs were created and lost Sectors made and companies floorished without a doubt, technology greater influenced and affected the US economy from 1950 to 2000.

Mandatory	Circle one	4B
1	2 or 3 or (4)	1 of 3

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2 of 3

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3 of 3

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Mandatory	Circle one	4C
1	2 or 3 or $\left(4\right)$	2 of 2
2) M/		_ 01 _

contraceptives, abortions, and more. but economically

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Question 4 — Long Essay Question

Overview

- Student responses were expected to demonstrate an understanding of the ways in which scientific and
 technological innovation impacted or changed the United States economy during the period from 1950 to
 2000. Stronger student responses emphasized the shift from a manufacturing to a service economy, the
 impact of the Cold War on the development of the military-industrial complex and globalization, and the
 rise of the information age.
- This question focused on the skill of Continuity and Change Over Time, as well as Contextualization and Argument Development.
- The Learning Objective assessed in this question focused on Work, Exchange, and Technology.
- This question mainly addressed Key Concepts 7.3, 8.2, 8.3, and 9.2.

Sample: 4A Score: 6

A. Thesis/Claim (0-1 points): 1

The response presents a historically defensible claim in the conclusion that scientific and technological change led to new and integral changes to the United States economy: "from transportation, to communications, to computing, new jobs were created and lost, sectors made and companies transformed. Without a doubt, technology greatly influenced and affected the US economy from 1950 to 2000." The response earned the thesis point.

B. Contextualization (0-1 points): 1

The response accurately describes trade with China, NAFTA, and other free trade agreements in a broader historical context and links them effectively to the topic of the prompt. This earned the point for contextualization.

C. Evidence (0-2 points): 2

This response uses a plethora of specific and relevant examples. Automation, industrial robots, cargo and passenger air transport, OPEC, Dwight Eisenhower's highway system, and Richard Nixon's opening of trade with China are all used to effectively support the argument about changes in the job market and in international trade. For the detailed explanations that tie the examples to the argument, the response earned the second point.

D. Analysis and Reasoning (0-2 points): 2

This strongly analytical response uses historical reasoning (causation as well as continuity and change over time) to demonstrate a complex and deep understanding of the historical developments related to the prompt. There is a focused discussion of the changes in manufacturing jobs which is attributed to the "advent of industrial robots and computerized machines" as well as to new transport technologies and trading partners. The response contains well-supported analysis of other technological factors (including the Cold War and NASA) that impacted the economy. It also effectively links the birth control pill to the increase in the female work force. The response earned both points.

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Question 4 — Long Essay Question (continued)

Sample: 4B Score: 4

A. Thesis/Claim (0-1 points): 0

The response does not address the nature of change in the economy (the mention that the change's "positive impact . . . can scarcely be understated" is too generic) or establish analytical categories and did not earn the point.

B. Contextualization (0-1 points): 1

The Cold War and Space Race provide broader historical context for the argument about government spending stimulating the economy, so the response earned the point.

C. Evidence (0-2 points): 2

The response earned 2 points for giving several pieces of evidence (for example, "manufacturing of things from bullets to nuclear bombs" and "with the market absolutely exploding for electronics"), and by connecting these examples to the argument about economic growth ("Hundreds of thousands of jobs were created as a result of this technological achievement").

D. Analysis and Reasoning (0-2 points): 1

The response earned the point for using the historical reasoning skill of causation, by describing how innovations spurred by the defense industry and advances in computer and communication technology stimulated the economy. The response does not use evidence to corroborate, qualify, or modify an argument, and therefore it did not earn the second point for complexity.

Sample: 4C Score: 2

A. Thesis/Claim (0-1 points): 0

This response makes a vague claim that the economy changed "gradually in the time period mostly for the worse in the long run" and posits a historically indefensible claim that the "older generations" rioted and protested technological change. Therefore, the response did not earn the point.

B. Contextualization (0-1 points): 0

Although the response attempts to put the argument in the context of post-World War II developments, the attempt is underdeveloped and historically inaccurate. The response claims that after World War II, "society began to innovate their own creations because with wars, there's advancements like the television, radio, movies, shows, cars, kitchen appliances that alter the economy." Therefore, the response did not earn the point.

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Question 4 — Long Essay Question (continued)

C. Evidence (0-2 points): 1

The response earned 1 point for giving several pieces of evidence (birth control, other contraceptives, TV dinners, TV shows, and films) but failed to earn the second point because it does not connect the evidence to the argument.

D. Analysis and Reasoning (0-2 points): 1

The response earned the first point for using historical reasoning (continuity and change over time and causation) as it argues that technological advances led to beneficial economic changes and negative social changes. The argument is simplistic and did not earn the second point for complexity.