

## Answer Outline

ECONOMICS 353

L. Tesfatsion/Fall 05

EXERCISE 4: Six Questions (8 Points Total) DUE: Tuesday, Sept 20, 2005, 2:10pm

**\*\*IMPORTANT REMINDER: LATE ASSIGNMENTS WILL NOT BE ACCEPTED  
– NO EXCEPTIONS\*\***

### EXERCISE INSTRUCTIONS:

- (1) Please **fill in your name and student ID number** on Side 1 of your bubble sheet and write **353 Exercise 4** in the top margin of Side 1.
- (2) Use a number 2 pencil to **mark your answers** on Side 1 of the bubble sheet to the first five questions Q1 through Q5, below, which are in multiple choice format.
- (3) The sixth question Q6 is a Web Exercise that asks you to research the reasons why Federal Reserve notes (dollar bills) have certain specified properties. Please put your **name and student ID number** at the top of your print-out sheet for Q6 along with **353 Exercise 4** and **separately** hand in this print-out sheet for Q6 in addition to your answer bubble sheet for questions Q1 through Q5.
- (4) Each question Q1 through Q5 is worth 1 point, and Q6 is worth 3 points.

**Q1 (1 point).** By definition, money is a financial asset because

- A. it is denominated in currency units.
- B. it is a claim against real assets.
- C. it is issued by the U.S. Treasury.
- D. it is a medium of exchange.

**Q2 (1 Point).** The ongoing evolution of the means of payment from backed paper money to unbacked paper money to electronic money and beyond in the U.S. is best understood to be a consequence of

- A. financial innovations introduced by the central government to ensure the efficiency of the payments system.
- B. attempts by central government to optimize the performance of the financial sector.
- C. central government mandates regarding means of payment that were designed to ensure the overall safety of the payments system.
- D. financial innovations introduced by financial institutions in order to lower their transactions costs.

**Q3 (1 Point).** For an economy with exactly 9 goods, \_\_\_\_\_ prices are needed to support exchange under a MONETARY payment system while \_\_\_\_\_ prices are needed to support exchange under a BARTER payment system.

- A. 36; 9
- B. 18; 9
- C. 9; 18
- D D.** 9; 36

**Q4 (1 Point).** When a person withdraws funds from a U.S. checkable deposit account and uses them to purchase shares in a (noninstitutional) U.S. money market mutual fund, then

- A. M1 and M2 both decrease for the U.S.
- B. M1 increases and M2 decreases for the U.S.
- C. M1 decreases and M2 increases for the U.S.
- D D.** M1 decreases and M2 stays the same for the U.S.
- E. None of the above.

**Q5 ( 1 Point).** Major crises are often times of significant financial innovation. For example, the severe financing needs of the North during the U.S. Civil War led \_\_\_\_\_.

- A. the Federal Reserve Board to issue Federal Reserve Notes for the first time.
- B. the Continental Congress to produce debased coinage (“token coins”) for the first time.
- C C.** the U.S. Treasury to issue unbacked paper money (“greenbacks”) as legal tender in the U.S. for the first time.
- D. to the chartering by the U.S. Congress of the first real bank in the U.S., the Bank of North America in Philadelphia.
- E. the citizens of the North to use commodity monies for the first time.

**SEE THE FOLLOWING PAGE FOR  
Q6: WEB EXERCISE**

**Q6: Web Exercise (3 Points Total). Why all the strange symbols, Latin expressions, and pictures on U.S. dollar bills? What's their true meaning and purpose?**

**NOTE:** For expositional clarity, all discussion regarding the controversy raised by Dan Brown's writings on the U.S. one-dollar bill have been gathered together below as Part A-3 of Q6:Part A.

**Q6 Part A: 2 Points** Take out a one-dollar bill and give a careful look at it's back design, in particular the face (obverse) and back (reverse) sides of the Great Seal of the United States appearing as two circles enclosing various symbols and Latin expressions. The Great Seal of the United States is the official symbol of the United States. Try as best you can to answer the following questions about this Great Seal using trustworthy sources (i.e., don't rely entirely on sources such as conspiracy-theory web blogs). **BE SURE TO CITE ANY REFERENCES YOU USE, INCLUDING WEBSITES CONSULTED.**

- **Q6 Part A-1 (1/2 point):** What is the official U.S. government interpretation of the Latin expressions "Annuit Coeptis" and "Novus Ordo Seclorum" appearing on the reverse side of the Great Seal?

**Answer to Q6 Part A-1:** The following official U.S. government interpretations of these these Latin expressions can be found at [www.moneyfactory.com/document.cfm/18/2041](http://www.moneyfactory.com/document.cfm/18/2041), a website maintained by the U.S. Bureau of Engraving and Printing.

"The 13-letter motto, '**Annuit Coeptis**' means '**He has favored our undertakings**'. Below the pyramid the motto, '**Novus Ordo Seclorum**' means '**A new order of the ages**' standing for the new American era (beginning in 1776)."

More about the history of the Great Seal can be found at <http://www.greatseal.com/>, a commercial website for Great Seal memorabilia maintained by John D. MacArthur. He writes as follows:

"Creating an official symbol of the United States was a collaborative effort by America's Founding Fathers that began on July 4, 1776. Finalized on June 20, 1782, the Great Seal is a unique combination of symbols and mottoes that convey their vision of America. ... The Latin motto 'Annuit Coeptis' was suggested by Charles Thomson when he put together the final design for the reverse side of the Great Seal in 1782. ... Thompson explained: 'The pyramid signifies Strength and Duration: the Eye over the it & the Motto allude to the many signal interpositions of Providence in favour of the American cause.' ... Latin expert Charles Thomson coined the motto: 'novo ordo seclorum' and explained: 'The date underneath [the pyramid] is that of the Declaration of Independence and the words under it signify the beginning of the new American Era, which commences from that date.' "

The Great Seal first appeared on the back of the U.S. one-dollar bill in 1935, under the direction of President Franklin D. Roosevelt.

- **Q6 Part A-2 (1/2 Point):** What is the official U.S. government interpretation of the depiction of the “eye over the pyramid” symbol appearing on the reverse side of the Great Seal?

**Answer to Q6 Part A-2**

The following official U.S. government interpretation of the “eye over the pyramid” symbol appearing on the reverse side of the Great Seal is paraphrased from discussions found at the following two pages on basic money facts maintained by the U.S. Bureau of Engraving and Printing.

[www.moneyfactory.com/document.cfm/18/2233](http://www.moneyfactory.com/document.cfm/18/2233)

[www.moneyfactory.com/document.cfm/18/2041](http://www.moneyfactory.com/document.cfm/18/2041)

On the reverse of the (Great Seal) is a pyramid with 1776 in Roman numerals at the base. The pyramid stands for permanence and strength. The pyramid is unfinished, signifying the United States’ future growth and the goal of perfection. A sunburst and an eye are above the pyramid, representing the eye of Providence. The eye (along with the motto *Annuit Coeptis*) allude to the many interventions of Providence in favor of the American cause.

- **Q6 Part A-3 (1 Point):** What controversy has recently been raised by the writings of Dan Brown (author of the bestselling books *Angels and Demons* and *The Da Vinci Code*) regarding how these Latin expressions came to appear on the U.S. \$1 bill and exactly what these expressions really mean? What controversy have Brown’s writings raised regarding how the “eye over the pyramid” symbol came to appear on the U.S. \$1 bill and exactly what this symbol really means?

**Answer to Q6 Part A-3:**

In Section 31 of *Angels and Demons*, Dan Brown has one of his characters state as fact that “U.S. currency is covered with Illuminati symbology.” The character goes on to identify the eye inside a triangle as an Illuminati symbol called a “shining delta” that represents a call for enlightened change of “a new world order.” The character then translates “*Novus Ordo Seclorum*” as meaning “New World Order.” The character goes on to identify Henry Wallace, Vice President of the U.S. in 1935, as an “upper echelon Mason (who) certainly had ties to the Illuminati” and who “sold the design of the Great Seal to (President Franklin D. Roosevelt)” by telling him that “New World

Order” meant “New Deal.” The character ends by explaining that Roosevelt did not check with anyone else about the symbol before telling the Treasury to print it because “he and Wallace were like brothers...Roosevelt was a well-known Mason.”

In a later interview (featured on [www.danbrown.com](http://www.danbrown.com)), Dan Brown identifies the pyramid on the U.S. one-dollar bill as “an Egyptian occult symbol” adopted by the Illuminati, “a cult of early scientists who had vowed revenge against the Vatican for crimes against scientists like Galileo and Copernicus.”

Interestingly, Brown does acknowledge in this same interview that “separating Illuminati fact from fiction can be difficult on account of the massive quantities of misinformation that has been generated about the brotherhood.”

Dan Brown’s writings have generated a cottage industry, some authors writing for and many writing against his conspiracy theories involving the Illuminati and their supposed connection to the appearance of the Great Seal on the U.S. one-dollar bill. (A Google search on the keywords “Dan Brown” and “Illuminati” results in an amazing 542,000 hits!)

For example, *U.S. News & World Report* responded (in its online USNews.com edition) with a rebuttal article titled *Inside the Masons: The fraternal order has long been the target of conspiracy theories and hoaxes. Here’s the real story*. See

<http://www.usnews.com/usnews/culture/articles/050905/5masons.htm>

This rebuttal article concludes as follows: “..the Masonic brotherhood has proved almost tailor-made for weavers of conspiracy theories or opportunistic authors eager to make a buck by imaginatively ‘exposing’ the secret ways and even more secret ambitions of the craft. If the ‘grand secret’ of Freemasons, as brother Benjamin Franklin once said, ‘is that they have no secret at all,’ those who suggest otherwise – including novelist Dan Brown of *Da Vinci Code* fame in his forthcoming novel, *The Solomon Key* – have seldom gone wanting for a receptive audience.”

### **Answer to Q6:Part B**

**Part B: 1 Point** By 1865, approximately one-third of all circulating currency in the U.S. was counterfeit. In that year, in an effort to control counterfeiting, the Department of the Treasury established the United States Secret Service (USSS). The general policy of the USSS has been to try to maintain the security of the currency by enhancing designs every seven to ten years. Describe TWO key security features that are CURRENTLY incorporated into at least one denomination of U.S. dollar bills.

**Note for Part B:** Larger denomination bills (e.g., the \$100 bill) incorporate all of the latest security features, while the lowest denomination bills (i.e., the \$1 bill) include only

some of these features. You will be able to see many of the latest security features if you view a \$5 bill issued 2003 or later.

**Answer to Q6:Part B** A wide variety of security features are currently incorporated into at least one denomination of U.S. dollar bills. The partial list includes:

- Distinctive feel difficult to counterfeit (based on a special blend of cotton and linen fibers).
- Red and blue fibers (long-time ingredient of all U.S. dollar bills).
- Intaglio printing used for most of the front and back part of U.S. dollar bills that gives the ink a distinctive raised feel that other printing techniques cannot duplicate.
- Distinctive fine-line engraved portraits (enlarged with finer details on post-1990 redesigned higher-denomination bills).
- Characteristic yellowish-green tint (the new \$20.00 U.S. dollar bill also has a peachy tint).
- New security threads that now run the width of the currency and glow red when held over ultraviolet light (higher denominations only).
- Watermarks, i.e., designs embossed into the bills during their production (higher-denominations only).
- Black-to-green color shifting ink used on a face-side numeral on the 1990 redesigned higher-denomination bills (\$20 and higher).
- Serial number (increased to 11 digits on redesigned higher-denomination bills).

**Remark:** The first \$1 notes (called **United States Notes**) were issued by the Federal Government in 1862 during the Civil War and are still counted as legal tender although rarely (if ever) seen in circulation. The now common \$1 **Federal Reserve Notes** were only first issued in 1963! While U.S. bills with denominations higher than \$100 are still outstanding (most held by collectors rather than in circulation), the \$100 Federal Reserve Note is the highest denomination bill still being actively printed by the U.S. Bureau of Engraving and Printing.