PRE-TESTING AND POST-TESTING IN MONEY AND BANKING

by

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Abstract

This paper summarizes the results of a 65-question pre-test and post-test administered to students enrolled in Economics 332, Money and Banking, at Tennessee Technological University during summer and fall terms of 1998. Total scores are compared as well as scores by male and female students and traditional and nontraditional students.

I. The Course

Economics 332, Money and Banking, is a core curriculum course in the College of Business Administration. All students enrolled in a business major are required to take the course during their junior or senior year. Others students enrolled would include economics majors from the College of Arts and Sciences and secondary education majors from the College of Education. The latter are seeking certification to teach economics at the high school level. On rare occasions a student may take this course as an elective. Non-business majors represent an insignificant portion of total enrollees. The only prerequisite for the course is Economics 202, Principles of Macroeconomics.

Three sections of Money and Banking are offered in both fall and spring semesters. One section is offered during the first summer semester. I teach two sections in fall and spring as well as the summer course. An another faculty member teaches one section each in fall and spring.

II. The Test

The 65 question test was administered to my sections during summer and fall. The pre-test was given on the second class day and the post-test on the next to last class day. The summer class met for 120 minutes each morning for 21 consecutive class days. One fall class met for 50 minutes on Monday, Wednesday, and Friday mornings. The other met for 75 minutes on Monday and Wednesday afternoons. The latter class was excluded from the study based on poor attendance and a small response.

The test questions are primarily factual questions over material covered in the course. The questions are categorized by subject. It was not necessary to use a calculator to answer any of the questions. A copy of the test is available from the author.

Students were allowed 60 minutes to complete the test. They were asked not to omit any question. They were also asked to designate their sex and their birth date. The latter was to determine distinctions between traditional and nontraditional students. A nontraditional student was defined as one whose birth date was prior to 1974. Only students who took both the pre-test and the post-test and answered all questions on both occasions are included in the summary results.

III. Summer Results

There were 37 usable responses from the summer session. The sample included 17 men and 20 women. Eleven of the students were nontraditional and 26 were traditional. Everyone in the sample scored higher on the post-test than on the pre-test. The increase in the number of questions answered correctly ranged from 5 to 29 with an average increase of 15.3. There was no evidence of significant

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differences between groups. However, the primary goal was to determine if students could significantly increase their test scores by completing the course. All groups showed significant gains from pre-test to post-test.

<center>Summer Total
(n = 37)</center>

<center>Pre - Test   Post - Test</center>

	Pre - Test	Post - Test
Arithmetic Mean	33.9	49.2
Standard Deviation	5.2	6.5
Range	20 - 45	27 - 61

Standard Error of Difference = 1.37 Number of standard errors difference = 11.17

<center>Summer Male
(n = 17)</center>

	Pre - Test	Post - Test
Arithmetic Mean	35.0	48.5
Standard Deviation	5.85	7.15
Range	20 - 45	27 - 58

Standard error of difference = 2.2 Number of standard errors difference = 6.14

<center>Summer Female
(n = 20)</center>

	Pre - Test	Post - Test
Arithmetic Mean	32.9	49.9
Standard Deviation	3.25	5.2
Range	26 - 41	39 - 61

Standard error of difference = 1.88 Number of standard errors difference = 9.04

<center>Summer Traditional
(n = 26)</center>

	Pre - Test	Post - Test
Arithmetic Mean	33.2	49.1
Standard Deviation	5.2	6.5
Range	20 - 44	27 - 57

Standard error of difference = 1.63 Number of standard errors difference = 9.75

Summer Nontraditional
(n = 11)

	Pre - Test	Post - Test
Arithmetic Mean	35.5	49.6
Standard Deviation	4.55	5.85
Range	29 - 45	39 - 61

Standard error of difference = 2.23 Number of standard errors difference = 6.32

There are no apparent significant differences between male and female students or between traditional and nontraditional students. However, post - test scores are significantly greater than pre - test scores for all groups at an alpha level of .001. Women had lower pre-test scores than men, but had higher post-test scores. Men gained an average of 13.5 correctly answered questions while women gained 17. Traditional students gained 15.9 and nontraditional students gained 14.6. The data suggest that women learned more than men during the course.

IV. Fall Results

There were 35 usable responses from the one fall section that is summarized below. This sample included 22 men and 13 women. There were only five nontraditional students in this sample so there was no comparison of traditional and nontraditional students. One student actually scored lower on the post - test than on the pre- test. That individual answered three fewer questions correctly on the post-test. The largest gain was 25 questions answered correctly.

Fall Total
(n = 35)

	Pre - Test	Post - Test
Arithmetic Mean	29.1	41.8
Standard Deviation	5.6	7.9
Range	20 - 42	29 - 59

Standard error of the difference = 1.64 Number of standard errors difference = 7.74

Fall Male
(n = 22)

	Pre - Test	Post - Test
Arithmetic Mean	29.5	41.4
Standard Deviation	5.3	8.0
Range	21 - 39	31 - 59

Standard error of the difference = 2.05 Number of standard errors difference = 7.85

Fall Female
(n = 13)

	Pre - Test	Post - Test
Arithmetic Mean	28.5	42.5
Standard Deviation	5.9	7.65
Range	20 - 42	29 - 55

Standard error of difference = 2.68 Number of standard errors difference = 5.22

Again post-test scores are significantly higher than pre-test scores for all groups considered. There are no apparent significant differences between male and female students, but female students gained an average of 14 correct questions as opposed to the male students' average gain of 11.9. The overall average increase was 12.7. There has been no attempt to explain why fall scores are lower than summer scores.

V. Conclusions

There are no significant differences between male and female students on the pre-test or the post - test in either summer or fall. There are no significant differences between traditional and nontraditional students on either the pre-test or post-test during summer term. Post-test scores were significantly higher than pre-test scores for all groups examined. Female students had lower pre-test scores than male students, but higher post-test scores. This suggests that female students learned more from the course than male students did. Fall scores were somewhat lower than summer scores, but no explanation has been sought for for this difference.

VI. Suggestions for Additional Research

This study shows correct response by question. Further analysis of pre-test and post-test response would be helpful in identifying strengths and weaknesses of the course. This will be the subject of a future paper.

Appendix

ECON 332

PRE - TEST & POST - TEST

FUNCTIONS AND DEFINITIONS OF MONEY

1. U. S. currency is printed by
  a. each individual Federal Reserve Bank
  b. the Bureau of the Mint
  c. the Bureau of Engraving and Printing
  d. private printing firms under contract

2. The life-expectancy of a one-dollar bill is
  a. 1.5 years
  b. 2 years
  c. 4 years
  d. 10 years

3. The largest payments system in the country is
  a. the U. S. Treasury
  b. the Automated Clearing House (ACH) system
  c. the Federal Reserve Bank of New York
  d. none of the above

4. Which of the following is a necessary prerequisite for money?
  a. it must be convertible into a precious metal
  b. it must have intrinsic value
  c. it must be generally acceptable as a means of payment
  d. it must not have intrinsic value

5. Checking accounts are money because
  a. they are generally acceptable in exchange for goods and services
  b. they were declared as money by the U.S. government
  c. they are legal tender
  d. they have intrinsic value

6. Which measure of the money stock is composed exclusively of transaction items?
  a. M1
  b. M2
  c. M3
  d. L

7. Savings deposits are included in
  a. M1
  b. M2
  c. M3
  d. M2 & M3

MONEY AND CAPITAL MARKETS

8. Treasury bill auctions are held
        a. weekly
        b. monthly
        c. quarterly
        d. annually

9. Financial instruments that mature in less than one year are known as
        a. capital market instruments
        b. money market instruments
        c. primary market instruments
        d. debentures

10. Which of the following is a capital market instrument?
        a. corporate bonds
        b. negotiable CDs
        c. bankers acceptances
        d. Treasury bills

11. The most important (and most liquid) money market instrument is
        a. commercial paper
        b. Eurodollars
        c. Treasury bills
        d. federal funds

12. The federal funds market is
        a. monies spent and received by the U. S. government
        b. receipts from the sale of savings bonds
        c. an interbank market

13. Treasury bills generally have lower yields than corporate issues of comparable maturities because
        a. there is no market for commercial paper
        b. Treasury bills are free of default risk
        c. there is an active secondary market for Treasury bills
        d. none of the above

14. When it is stated that municipal securities are tax-exempt, it means
        a. that the issuer pays no taxes
        b. that the interest earned is not subject to federal income taxes
        c. that the interest earned is subject to no taxes of any kind
        d. that the buyer pays no taxes at time of purchase

FINANCIAL INSTITUTIONS

15. The largest and most important financial intermediaries are
        a. Federal Reserve Banks
        b. commercial banks
        c. pension funds
        d. life insurance companies

16. Credit unions differ from other financial intermediaries because
        a. they require a membership fee
        b. they are non-profit corporations
        c. they lend only to their members
        d. all of the above

17.The largest earning asset of commercial banks is
        a. federal funds
        b. deposits
        c. government securities
        d. loans

18. The largest liability of commercial banks is
        a. loans
        b. deposits
        c. borrowings
        d. government securities

19. Which financial intermediaries traditionally specialized in first mortgage loans?
        a. credit unions
        b. commercial banks
        c. savings and loan associations
        d. Federal Reserve Banks

20. Today, the largest mortgage lenders, by volume, are
        a. credit unions
        b. commercial banks
        c. savings and loan associations
        d. life insurance companies

21. What was the initial reason for the formation of credit unions?
        a. to offer home equity loans
        b. to offer demand deposits
        c. to offer consumer loans
        d. to offer business loans

BANKING HISTORY

22. The first Bank of the United States
        a. had a 20-year charter
        b. was a joint private-public enterprise
        c. did not have its charter renewed
        d. all of the above

23. The President who was primarily responsible for the dissolution of the second Bank of the United States was
        a. Thomas Jefferson
        b. Andrew Jackson
        c. Woodrow Wilson
        d. Richard Nixon

24. The free banking system ended

a. it has not ended

b. with creation of the Federal Reserve System

c. with passage of national banking laws in the 1860s

d. when they all failed

25. Banks may be chartered by their state or by an agency of the federal government. This gives rise to the term

        a. bilateral banking

        b. dual banking

        c. duplex banking

        d. inverse ratio banking

REGULATION

26. The Federal Deposit Insurance Corporation (FDIC) has insured bank deposits against bank failure since the 1930s. What is the current limit of coverage?

        a. $5000 per account

        b. $50,000 per account

        c. $100,000 per account

        d. coverage is unlimited

27. The FDIC was created as a permanent agency by

        a. Banking Act of 1933

        b. Banking Act of 1935

        c. Federal Reserve Act

        d. Bank Holding Company Act

28. The Banking Act of 1935

        a. repealed the Glass-Steagall Act

        b. altered the structure of the Federal reserve System

        c. is the Glass-Steagall Act

        d. none of the above

29. DIDMCA made changes in reserve requirements. Since 1980, reserve requirements

        a. are determined by geographic location of the bank

        b. are uniform and universal

        c. are determined by net demand deposit size of the bank

        d. none of the above

30. Money market deposit accounts (MMDAs) were authorized by

        a. Banking Act of 1933

        b. FIRREA

        c. Garn-St. Germain Act

        d. DIDMCA

31. The federal agency that supervises thrift institutions is

        a. FDIC

        b. RTC

        c. OTS

        d. FHHB

32. DIDMCA was passed in

        a. 1913

        b. 1933

c. 1956
d. 1980

33. The two bank deregulation acts are
- a. FDICIA and FIRREA
- b. DIDMCA and FIRREA
- c. DIDMCA and Garn-St. Germain
- d. Garn-St. Germain and FDICIA

34. Which act calls for an annual on-site examination of all insured banks?
- a. Banking Act of 1935
- b. FIRREA
- c. FDICIA
- d. DIDMCA

DEPOSIT EXPANSION

35. Assume a bank has zero excess reserves and the required reserve ratio is 10%. If the bank receives a new deposit of $5000, what is the maximum amount it can loan out?
- a. $500
- b. $4000
- c. $4500
- d. $5000

36. If nobody holds cash and the only type of deposit is a demand deposit for which the required reserve ratio is 25%, what is the value of the money multiplier?
- a. .25
- b. 1
- c. 4
- d. 5

FEDERAL RESERVE SYSTEM AND MONETARY POLICY

37. The Chairman of the Federal reserve Board of Governors
- a. is the president of the Federal reserve Bank of New York
- b. is the Secretary of the Treasury
- c. is appointed by the Senate and approved by Congress
- d. is appointed by the President and approved by the Senate

38. The Federal Open Market Committee is composed of
- a. the Board of Governors
- b. the 12 presidents of Federal Reserve Banks
- c. the Board of Governors and five Federal Reserve Bank presidents
- d. seven Federal Reserve Bank presidents

39. Required reserves are held
- a. as vault cash
- b. on deposit with the Fed
- c. as vault cash and on deposit with the Fed
- d. as demand deposits

40. Reserves held by banks above the minimum amount required are known as

a. required reserves
b. excess reserves
c. vault cash
d. legal reserves

41. The rate charged by the Fed on loans made to its borrowers is known as
    a. prime rate
    b. discount rate
    c. federal funds rate
    d. market rate

42. The purchase and sale by the Fed of securities is known as
    a. monetary policy
    b. fiscal policy
    c. open market operations
    d. discount window activity

43. The actual buying and selling of securities for the Fed is done by
    a. Federal Reserve Bank of New York
    b. FOMC
    c. FDIC
    d. Federal Reserve Board of Governors

44. A commercial bank that belongs to the Federal Reserve System is known as
    a. federal bank
    b. national bank
    c. member bank
    d. chartered bank

45. How many Federal reserve Banks are there?
    a. 1
    b. 2
    c. 7
    d. 12

46. What is the length of a term on the Federal reserve Board of Governors?
    a. 2 years
    b. 4 years
    c. 10 years
    d. 14 years

47. The largest liability of the Fed is
    a. reserve deposits
    b. U. S. Treasury deposits
    c. Federal Reserve Notes
    d. special drawing rights

48. The largest asset of the Fed is
        a. special drawing rights
        b. government securities
        c. Federal Reserve Notes
        d. loans

49. About how often does the Federal Reserve conduct an open-market purchase or sale?
        a. daily
        b. weekly
        c. biweekly
        d. monthly

50. The Chairman of the Board of Governors of the Federal Reserve System is
        a. Burns
        b. Martin
        c. Greenspan
        d. Volcker

51. Federal Reserve Banks are considered "lenders of last resort."
   This means
        a. potential borrowers must exhaust other sources of funding before turning to the Federal Res. Banks
        b. potential borrowers must form borrowing pools in order to turn to the Federal Reserve Banks
        c. potential borrowers must attempt to sell bonds before turning to the Federal Reserve Banks
        d. none of the above

52. A prime purpose of the Federal Reserve System is to
        a. issue currency
        b. actively control the money supply
        c. serve as a lender of last resort to the government
        d. harness overzealous bankers

QUANTITY THEORY

53. What is the Fisher equation of the quantity theory of money?
        a. $MV = PQ$
        b. $M = kPQ$
        c. $MP = VQ$
        d. $Mk = PQ$

54. What is the Cambridge equation of exchange?
        a. $MV = PQ$
        b. $M = kPQ$
        c. $MP = VQ$
        d. $Mk = PQ$

55. The rate at which money turns over in an economy is known as
        a. quantity theory of money
        b. velocity of money
        c. money supply
        d. real money supply

56. The transactions demand for money mainly depends on
> a. bond yield
> b. demand deposits
> c. interest rates
> d. the level of income

57. Velocity may be measured by
> a. V = MP
> b. V = GDP/M
> c. V = M/GDP
> d. Velocity is always 2.0

INTERNATIONAL FINANCE

58. The foreign exchange rate, from the viewpoint of the U. S., is the
> a. exchange of U. s. goods for foreign goods
> b. currency of other countries
> c. amount of exports we send to other countries
> d. amount of foreign currency we get in exchange for one
> U. S. dollar

59. The International Monetary Fund was established
> a. at the Bretton Woods meeting following the end of World War I (1918)
> b. by an international delegation toward the end of World War II (1944)
> c. to buy and sell gold in order to fix its price at $35 per ounce
> d. in order to facilitate the conversion of all currencies into gold on demand

60. The current system of foreign exchange is
> a. a fixed-exchange rate system
> b. a gold-convertibility system
> c. a totally flexible exchange rate system
> d. a managed floating exchange rate system

61. The difference between a nation's exports of goods and services and its imports of goods and services is called its
> a. balance of trade
> b. balance on current account
> c. balance of payments
> d. net capital flow

62. The most important trading partner of the U. S. in terms of the volume of exports is
> a. Canada
> b. Japan
> c. China
> d. Germany

63. Under the Bretton Woods agreement of 1945, all major trading nations agreed to
> a. allow their currencies to float freely against both the U. S. dollar and gold
> b. maintain their exchange rates versus gold or the U. S. dollar within a narrow range
> c. allow their currencies to float within wide ranges determined by the IMF
> d. allow their currencies to float freely against gold but to peg them to a specific U. S. dollar value

64. If the dollar depreciates
   a. it buys less gold
   b. it buys more gold
   c. it buys fewer units of another currency
   d. it buys more units of another currency

65. The official price of gold in the U. S., that is, the price the Treasury stands ready to pay is
   a. $35/ounce
   b. $38/ounce
   c. $42.22/ounce
   d. the market price on the Comex