Econometrics, Practice Questions, ECO54 Udayan Roy

These questions are based on chapter 11 of *The Ordinary Business of Life* by Roger Backhouse and Chapter 16 of *History of Economic Thought*, Fourth Edition, by Harry Landreth and David Colander. The latter item was distributed as a handout in class. If you do not have it, please pick up your copy from the economics department's offices.

1. On the issue of using observed facts to test economic theories, which of the following is correct?

   a. Most economists believe that their theories of how the economy works must be tested against real-world events and data. However, there is more disagreement on the proper procedure for the use of data to test theories.
   b. Few economists believe that their theories of how the economy works must be tested against real-world events and data. However, most economists agree on the proper procedure for the use of data to test theories, if such testing is done.
   c. As economists generally cannot do controlled experiments to test their theories, most economists believe that it is futile to try to use real-world data to test their theories.
   d. Most economists believe that their theories of how the economy works must be tested against real-world events and data. Most economists agree that the only proper procedure for such testing is to run controlled experiments.

2. According to Ragnar Frisch, a Norwegian economist who became a pioneer of the subject, econometrics

   a. Is the expression of economic theory in mathematical terms
   b. Refers to the collection of data to describe an economy quantitatively
   c. Is the development of the mathematical theory of probability
   d. Refers to the use of the mathematical theory of probability and observed economic data to test and measure economic theories that are mathematically expressed

3. The term *econometrics* was coined by

   a. Jan Tinbergen
   b. Ragnar Frisch
   c. Henry L. Moore
   d. Elmer J. Working

4. In the late seventeenth century most classical economists followed which of the following approaches?

   a. Common-sense empiricism ("armchair empiricism")
   b. Statistical analysis ("measurement without theory")
   c. The classical econometric approach
   d. The Bayesian approach

5. In his *The Solar Period of the Price of Corn* (1875) _____ tried to test whether fluctuations in prices were caused by fluctuations in sunspot activity by seeking to statistically determine whether price cycles had the same periodicity, 11.1 years, as sunspots.

a. Henry L. Moore
b. Elmer J. Working
c. Elmer Fudd
d. William S. Jevons

6. In the early 1900s, _____ pioneered the use of mathematical statistics in economics when he used statistical techniques (developed by Karl Pearson, a statistician, for use in the interpretation of experimental data) to verify economic theories (such as John Bates Clark's marginal productivity theory of wages) with real world (that is, *non*-experimental) data.

a. Henry L. Moore
b. Elmer J. Working
c. Henry Schultz
d. Trygve Haavelmo

7. After pioneering the statistical measurement of demand curves and showing that the demand for agricultural products had the expected negative slope, Henry L. Moore (1869-1958) claimed to have found statistical evidence for a *rising* demand curve for pig iron. This controversial claim focused economists' attention on the problem of _____.

a. Spurious correlation
b. Identification
c. Regression
d. Correlation

8. While measuring the demand for agricultural products, Henry Ludwell Moore assumed

a. That the quantity supplied was determined by rainfall and unaffected by changes in price, whereas the quantity demanded was unaffected by rainfall. Consequently, when rainfall levels changed, the resulting changes in prices and quantities revealed the demand curve.
b. That the quantity supplied depended on both prices and rainfall. Consequently, changes in rainfall caused changes, in both prices and quantities, that allowed both demand and supply curves to be measured.
c. That both the quantity demanded and the quantity supplied are affected by rainfall. Thus, the observed changes in quantities and prices that were caused by changes in rainfall enabled the measurement of the demand and supply curves.
d. Nothing about the effect of rainfall on the quantities of agricultural goods demanded and supplied.

9. Henry L. Moore's attempts to measure the demand curves for agricultural products showed that

a. The measurement of theoretical concepts such as the demand curve relied on the assumptions made by the person doing the measurement.
b. It was possible to measure concepts in economic theory in the same way a physicist measures, say, the rotation speed of the Earth (that is, without making assumptions that are hard to verify).
c. The measurement of theoretical concepts such as the demand curve is impossible.

d. The measurement of theoretical concepts such as the demand curve was possible only with experimental data

10. _____ solved the _____ problem by showing that if each economic (i.e., structural) relationship had at least one independent cause, then every relationship could be statistically measured.

   a. Wesley Clair Mitchell, identification
   b. Elmer J. Working, identification
   c. Henry L. Moore, regression
   d. Henry Schultz, correlation

11. Henry L. Moore, a pioneering econometrician, studied the relationship between ability and wages. Which of the following is likely true about Moore's work in this area?

   a. Moore was interested in this topic solely for reasons of intellectual curiosity
   b. Moore hoped to use his measurements to argue against socialist policy proposals calling for more equality of income
   c. Moore hoped to use his measurements to argue in favor of socialist policy proposals calling for more equality of income
   d. Moore hoped to use his measurements to argue against socialist policy proposals calling for less equality of income

12. _____ pointed out that in a regression analysis of data on two variables, X and Y, it would be impossible to decide whether to regress X on Y or to regress Y on X without a *theory* that specified which variable was dependent on which other variable. Therefore, in economics, measurement without theory was not possible.

   a. Henry L. Moore
   b. Elmer J. Working
   c. Henry Schultz
   d. Elmer Gantry

13. In his macroeconometric work, Henry L. Moore argued that rainfall affects agricultural production and thereby affects general economic activity. He established this by showing a close relationship between rainfall and general economic activity in the available data. Phillip Wright then showed that when one uses data on the rainfall that was relevant for agricultural production—for example, by ignoring rainfall in non-agricultural areas—the relationship claimed by Moore was no longer true. This showed that

   a. Proper measurement is crucial in econometric work
   b. Patterns that show that two or more variables are related can show up in the data by pure chance, when one is not careful about the data
   c. Different econometricians may measure the same thing in multiple ways
   d. All of the above

14. Macroeconomic theory, which is concerned with the economy as a whole, uses a theoretical concept called "the general level of prices." But in reality, one can observe only individual prices. Therefore,

    a. Macroeconomic theories cannot be tested with real-world data
    b. The testing of macroeconomic theories depends crucially on the development of new measurement techniques such as the consumer price index and other ways of measuring the overall level of prices
    c. Macroeconomics is fundamentally unscientific
    d. All of the above

15. Simon Kuznets, Richard Stone, and James Meade all won the Nobel Memorial Prize in Economics in part for their work in

    a. Developing the consumer price index
    b. Developing national income accounting
    c. Solving the identification problem in econometrics
    d. Game theory

16. The first econometric model of an entire economy was constructed by _____ in 1936 for the Dutch economy.

    a. Trygve Haavelmo
    b. Tjalling Koopmans
    c. Jan Tinbergen
    d. Wesley Clair Mitchell

17. In his *The Probability Approach to* Econometrics (1944), Trygve Haavelmo (1911-) argued that economists

    a. Did not need to use the mathematical theory of probability to prove their theories; political power and persuasion determines which of multiple conflicting theories would be accepted in the end
    b. Could not rely on the mathematical theory of probability because they needed to be certain about the reliability of their theories and the mathematical theory of probability could not prove anything with certainty
    c. Could use the mathematical theory of probability to understand whether the available data supported their theories only when the data was generated by controlled experiments
    d. Would have to use the mathematical theory of probability to understand whether the available real world (that is, non-experimental) data supported their theories

18. As a pioneer of experimental economics, _____ conducted a laboratory experiment in 1956 to test whether economic equilibrium would be achieved in a double oral auction market. He found that _____.

    a. Vernon Smith; within fifteen minutes, the price came very close to the theoretically calculated equilibrium price, and once it arrived there, it tended to stay there.

b. Jan Tinbergen; within fifteen minutes, the price came very close to the theoretically calculated equilibrium price, and once it arrived there, it tended to stay there.
c. Vernon Smith; the price at which the auction participants traded had no relation to the theoretical equilibrium price.
d. Trygve Haavelmo; the price at which the auction participants traded had no relation to the theoretical equilibrium price.

19. The economist Joshua Angrist examined the economic life histories of those who were drafted into the U.S. armed forces by lottery and sent to fight in Vietnam. Angrist was trying to see if career interruptions had long-term effects on a person's income. Angrist's Vietnam draft lottery analysis is

    a. Based on the same kind of non-experimental data that is commonly used in econometric studies.
    b. A controlled experiment
    c. A natural experiment
    d. An invalid analysis of the question he is trying to answer

20. Joshua Angrist's empirical analysis of the Vietnam draft lottery

    a. Was unable to say anything about the effect of career interruption on long-term wage income
    b. Showed that long after their service in Vietnam had ended, the earnings of white veterans were approximately 15 percent less than the earnings of comparable non-veterans
    c. Showed that long after their service in Vietnam had ended, the earnings of white veterans were approximately 15 percent more than the earnings of comparable non-veterans
    d. Showed that long after their service in Vietnam had ended, the earnings of white veterans were approximately equal to the earnings of comparable non-veterans