Some Notes and Thoughts on Quiz 3

1. The following is a question that macroeconomists would be directly interested in: a) why did the prices of refrigerators come down in the 80s, b) why did the Fed cut interest rates last year, c) how do flocks of birds know where to fly, d) why human beings are not always objective

We went over in class the main difference between macro and micro economics. Macro ignores distinctions between goods, it does not distinguish refrigerators from clothes so to speak; we also discussed how macro people care about markets like the labor or money market; only choice b deals with a market (the money or funds market); part c was put in there to throw those people off who were essentially dozing off in class and vaguely remember an analogy connecting macro and the idea that macroeconomists are like ornithologists who study flocks of birds not individual birds. Part d would be a topic that a micro economist would be interested in

2. Suppose an economist wishes to study the effect of grades earned in high school and its effect on future wages earned. Then the model that this economist would write down would treat a) the unemployment rate in the economy as an exogenous variable, b) the quality of schools as an endogenous variable, c) the income of parents of the children as an endogenous variable, d) both a and c are correct

We went over in class the distinction between exogenous and endogenous variables. The former are taken as given when constructing a model; the latter are what the model attempts to explain. In this case, the only endogenous variable is future wages earned (that is what the researcher is trying to explain and he thinks that grades in high school may be a good predictor of future wages earned). All the other variables mentioned in the question, such as unemployment rate or quality of schools, are exogenous variables because the researcher is not trying to explain the unemployment rate nor is he trying to explain school quality. So correct answer is a.

3. The fact that good-looking people in the real world earn more than plain-looking people implies a) economics is a subjective science, b) economics has very little to say about the real world, c) people in the real world suffer from subjective biases, d) there are many more plain-looking people than good-looking people in the real world

We discussed this example in lecture. I deliberately set questions from examples raised in class so as to reward those students who come to class and pay attention. If you did not attend the relevant lecture, you would not be able to answer this. I explained in class that economics, even though it is an objective science, faces a tension in that the objects it studies may suffer from all kinds of subjective biases (answer c), like we stop shopping at a store because we don’t like the manager even though the store sells stuff cheaper than elsewhere.
4. The following is not a question or statement of belief: a) questions are more important than answers, b) economists can predict next year's unemployment rate better than people on Wall Street, c) students should attend university only if they are intellectually curious, d) we are all pretty much alike.

This question would appear vague to someone who is not up on the material being discussed in class. In class, I went over with many examples, the idea that there are many questions of belief in this world. What distinguishes them from questions that scientists ask is that questions of belief cannot be answered using the scientific method. For example, should Catholic priests be allowed to marry is a question of belief. One cannot set up a model or carry out a test to determine the answer to that question. Either one believes that Catholic priests should be allowed to marry or one doesn’t. Science cannot answer that question. In this question, one of the choices is: economists can predict next year's unemployment rate better than people on Wall Street. This is not a statement of belief because I can devise a test following the scientific method to check if this statement is true. I can poll 2000 economists and ask them to predict next year’s unemployment rate and then poll 2000 people on Wall Street; then use statistical theory to test if one group is better than the other….The remaining choices, you can now see, are statements which cannot be tested; either you believe in them or you don’t. Some students accused me of being vague and claimed my questions are poorly worded. You will hopefully now agree that there is nothing wrong or vague with/about my question. If you understood the concept of “question of belief”, you would get this question.

Questions 5, 6, 7, 8: were all based on a market for corn where the demand for corn did not depend on its price. This was the only twist to this question. No tricks no vagueness…just a simple twist. In fact, since demand did not depend on price, the problem became trivially simpler than a similar question in which demand depended on price. Someone said demand for a commodity as being independent of price was “statistically impossible” and hence the question was wrong and misleading. First of all that is not true; there are commodities (like prized paintings and to a lesser extent, addictive drugs like heroin) where demand is largely insensitive to price. Second, how does it matter whether something is statistically possible or not? As a middle school student when you solved questions of the form “A train leaves Denver at 4 p.m and reaches Philadelphia at 8 p.m…..another train leaves Denver at 6 p.m…”, did you ask: is this possible that a train leaves Denver and reaches Philly in 4 hours? No, of course not. Answer the question given what you know and given what you are told. Whether the answer or the question is realistic is of no importance to questions in this class.

Now the question: Consider the market for corn. Assume that demand for corn is given by the demand function, D(I,p) where p is the price of corn, and I the income of the people demanding corn. Assume that the supply of corn is given by S(p,a) where a is the size and quality of the farms.

5. a) the equilibrium price of corn will depend only on a, b) the equilibrium quantity of corn supplied will depend only on p, c) the equilibrium quantity of corn supplied will depend on p and I, d) none of the above.
Based on the 3-4 examples I worked out in class, you ought to have known that the equilibrium (market clearing) price or quantity never depends on endogenous variables (like \( p \) or \( q \)) and will always depend on exogenous variables. So any choice that suggested otherwise would be wrong. This is not a trick question; if you understood the point I repeatedly made in class that equilibrium entities depend only on exogenous variables, then you would have gotten this in a second.

6. Denote the equilibrium price of corn by \( p^* \). Which of the following is not true: a) \( p^* = 0 \) is not possible, b) \( p^* \) depends on \( a \) and \( I \), c) \( p^* \) depends on \( D \) and \( S \), d) \( p^* \) can never exceed \( a \)

Notice that I have not given you any information on the demand and supply functions thus far. That is I have not given you specific equations for \( D \) and \( S \). Based on our discussion above, you know that the equilibrium price has to depend on the exogenous variables (\( a \) and \( I \)) and cannot depend on endogenous variables like \( p \) and \( q \). Since \( p^* \) represents the intersection of the \( D \) and \( S \) functions, it is trivially the case that \( p^* \) has to depend on \( D \) and \( S \). The last choice is a silly one; since you have not been given any information on \( D \) and \( S \), there is no way for you to say that \( p^* \) can or cannot exceed \( a \). So, the only choice left is a, \( p^* = 0 \) is not possible. Again, in the absence of any information on \( D \) and \( S \), of course \( p^* = 0 \) remains a possibility. So to claim that \( p^* = 0 \) is not possible is not true. Now whether \( p^* = 0 \) is realistic or not is not for you to ask; a practical economist consulting for John Deere can and should ask that question, not you.

7. Suppose \( D(I,p) = 12 - 2I \) and \( S(p,a) = 1 + 4p + 2a \). Then a) if you plot \( p \) on the vertical axis and quantity of corn demanded on the horizontal axis, the function \( D(I,p) \) would be a line with slope 0 b) changes in price would shift the supply curve but not the demand curve, c) the equilibrium price is \( ((11)/4) - (((I + a)/2)) \), d) none of the above

Since demand was independent of price, if you plotted price on the vertical axis and demand on the horizontal axis, demand would always be 12-2I irrespective of the price. Hence a vertical line and vertical lines have slope infinity (not zero). We went over these things in the math review. The equilibrium price expression given in c was really close to the right answer except that the right expression would have read \( ((11)/4) - (((I + a)/2)); \) so answer is none of the above.

8. Based on information in question 7 above: a) if the size and quality of land fell, the equilibrium price of corn would rise, b) the equilibrium quantity of corn demanded and supplied would depend only on \( I \), c) when \( I \) went up, the equilibrium supply of corn would increase, d) all of the above

Follows from what I have discussed above.

9. The following is not a question from positive economics: a) when interest rates go down, do people buy new houses? b) when the economy enters a recession, should the government intervene? c) when banks fail, do local businesses go bankrupt? d) is the size of the agricultural sector in the US falling over time?
If you attended class and paid attention, you would recall that we defined positive versus normative economics; the latter asks questions of the type “should we…”? here the only choice with a “should” was part b.

10. Identification problems typically do not arise if a) economists have a lot of information, b) one exogenous variable changes at a time, c) endogenous variables do not change over time, d) economists could see into the future.

You may recall that I discussed identification problems in detail in lectures. I gave a real-world example of your boss firing you the day after your date with his daughter did not go well. We then discussed the problem using demand and supply curves and I assigned a reading from page 66 in the Mankiw text. If you did your homework, you would know that identification problems arise when two exogenous variables change at the same time (in the demand-supply example we went over in class, identification problems arise when both Pm and Y changed). So the only correct choice was b.

Let me make some general remarks:

1. Yes, I will, on each exam try my best to write questions that separate out those who are working hard (coming to class and paying attention and doing all the assigned work) from those who are slacking off. As a professor, that is my job. And yes, very often the four choices I give you are deliberately chosen to confuse the students who are slacking. If you understand the material and have confidence in your understanding, I will not be able to confound or confuse you – you’ll realize the traps and stay away from them. True knowledge will then be yours. If you are falling into every twist and trap I set, you must be learning by rote and that will take you nowhere in this course. I will continue to ask questions that challenge you to think and think hard.

2. If a question appears tricky or poorly worded to you, chances are near 100% that you have not understood the material as well as I expect you to.

3. I have gotten the feeling that quite a few students are, either not attending class or even when they do, read the newspaper or stare blankly at the wall or sleep. Given what I have described above, you should understand that your slack-off strategy will not bring you success. Much of what I teach looks deceptively simple. That does not mean it is actually simple. Keep that in mind.

4. A student complained that if he/she had written down “d” as the right choice for the entire exam, she would have gotten more points than what she actually did. I don’t have to tell you that such strategies are downright risky.

5. Don’t ask the TAs any questions during the exams. They are not responsible for anything they tell you.

6. Sometimes, it will be the case that some of my questions can be answered either in 5 seconds (if you really understand the material) or in 10 minutes (if you do things by brute force and show no smart understanding of the material). Some of the questions on the supply and demand for corn in Quiz 3 were of this sort.