Principles of Economics

Winter Semester 2009 / 2010

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You are allowed to use a non-programmable calculator (in accordance with the instructions given by the examination office) and a translating dictionary from your native language to English (without any notes written into it). **All** of the **twelve** (12) examination questions must be answered (the estimated time to spend on each question is provided). This examination consists of **four** (4) pages and must be completed within 120 minutes.

Question 1 (10 Minutes)

Market equilibrium occurs at the equilibrium price where the quantity demanded equals the quantity supplied, $Q^d_x = Q^s_x$.

(a) When there is an increase in demand in a market, assuming the supply curve remains constant, what happens to the equilibrium price and quantity?

(b) What do we mean by the "Comparative Statics Analysis" of markets?

Question 2 (10 Minutes)

Year	Nominal GDP ($, billion)	Real chained GDP (2000)	CPI 1982-1984 = 100	Unemployment Rate
1990	5,803.1	7,112.5	130.7	5.6
1991	5,995.9	7,100.5	136.2	6.9
1992	6,337.7	7,336.6	140.3	7.5
1993	6,657.4	7,532.7	144.5	6.9

Using the data in the table above, calculate the following:

(a) The consumer price inflation rate in 1993.

(b) The output growth in 1992.

Question 3 (10 Minutes)

Consider all the following cost curves: ATC, AFC, AVC, and MC.

(a) Explain the relationship between the ATC, AVC curves and the MC.

(b) Why is it sometimes said that the AFC curve is not very interesting?

Question 4 (10 Minutes)

Invented in 1986, the Economist's Big Mac Index is based on the theory of purchasing-power parity.

	The Economist Big Mac Index				
	Big Mac prices		Implied PPP* of the dollar	Actual dollar exchange rate May 22nd	Under (−)/ over (+) valuation against the dollar, %
	in local currency	in dollars			
United States†	$3.10	3.10	–	–	–
Argentina	Peso 7.00	2.29	2.26	3.06	-26
Australia	A$3.25	2.44	1.05	1.33	-21
Brazil	Real 6.40	2.78	2.06	2.30	-10
Britain	£1.94	3.65	1.60†	1.88†	+18
Canada	C$3.52	3.14	1.14	1.12	+1
Chile	Peso 1,560	2.94	503	530	-5
China	Yuan 10.5	1.31	3.39	8.03	-58
Czech Republic	Koruna 59.05	2.67	19.0	22.1	-14

(a) In Britain the Big Mac costs £ 1.94, which would seem expensive to tourists from America. Explain this statement in terms of the actual and PPP exchange rates.

(b) Explain the concept of the real exchange rate. How is this concept related to the "law of One Price" and what is the relationship between the real exchange rate and the PPP exchange rate.

Question 5 (10 Minutes)

One of America's greatest mathematical economists, Professor Irving Fisher, developed what later became known as the "Fisher Equation."

(a) The Fisher Equation shows that the nominal interest rate is made up of two components. What are these two components and what does the Fisher Equation tell us about nominal interest rates?

(b) Explain in detail why the nominal interest rate measures the monetary cost per unit of holding money per unit of time.

Question 6 (10 Minutes)

In most countries the Central Bank conducts Monetary Policy.

(a) Explain how open market operations are conducted by a central bank and how this affects the money supply.

(b) If a country is experiencing a rather severe increase in inflation, explain the "practical" aspects to consider when suggesting the use of fiscal policy. Can monetary policy be used to combat this problem? How would each of these two macroeconomic policy instruments be applied?

Question 7 (20 Minutes)

Supply and Demand analysis is the single most important and useful tool in microeconomics.

(a) State the "Law of Demand".

(b) Define the concept of the supply curve. Why is the Supply curve upward sloping?

Question 8 (10 Minutes)

Of all the concepts in Macroeconomics the single most important measure of economic performance is Gross Domestic Product (GDP).

(a) What is the difference between GDP, GNP, and NNP?

(b) What is included in Gross Private Domestic Investment, I?

Question 9 (10 Minutes)

Consider a producer with a Cobb-Douglas production function that produces and sells Q^s_x units of product x per time period:

$$Q^s_x = \tau\, L^{0.45}\, K^{0.55} \text{ with } \overline{\tau} = 1.1$$

(a) Explain the "Law of Diminishing Returns" in terms of the input Labor.

(b) Explain "Returns to Scale" using the production function above as an example.

Question 10 (10 Minutes)

Assume that in the foreign exchange market in Paris US dollars are selling for € 0.78095 / $ and in Chicago the exchange rate is US $ 1.2793 / €.

(a) If you are a foreign exchange trader in New York with $ 25 million, could you make an arbitrage profit today? If it is possible for you to make some money, show exactly how you would do it and what would be the resulting profit (loss).

(b) Explain how traders exploiting foreign exchange arbitrage opportunities bring the foreign exchange markets around the world into equilibrium?

Question 11 (10 Minutes)

Economic growth is one of the central questions of economics because increases in GDP per person is generally taken as an increase in the standard of living of its inhabitants.

(a) The Solow growth model predicts: In the long run the economy enters an equilibrium steady state in which the capital stock fails to grow. Explain this statement.

(b) The new growth theory was developed in the 1980s and is attributed to Professor Paul Romer. Explain in his contribution to our understanding of economic growth.

Question 12 (10 Minutes)

Answer the following questions.

(a) Explain the difference between Perfect Competition and Monopolistic Competition.

(b) Give three examples of Barriers to Entry that can limit the number of producers in a particular market.

This is the End of the Examination.

GOOD LUCK!