Economics 201: Introduction to Macroeconomics
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Midterm Summer 2012

Your NAME: _____

The exam is closed note and closed book, but you can use a calculator. Each question is worth 10 points, for a total of 150.

- Krugman & Wells: 1-4, appendix from 5, 6-8
- Buchholz: I. Introduction, II. Smith, III. Malthus, IV. Ricardo, VII. Marshall, VIII. Institutionalists, XI. Public Choice.
- Rittenberg & Tregarthen RT 4.3, 5.1, 6.3, 11.3, 18.2, 33.2

1. What is happening in each of these markets? Show it with a graph.

   A. A curve is shifting, causing the market price to fall and market quantity to rise. Give an example of a specific factor that might cause such a shift.

   B. A curve is shifting, causing the market price to fall and market quantity to fall also. Give an example of a specific factor that might cause such a shift.

2. What is happening in each of these markets? Show it with a graph.

A. Two curves are shifting and the market price is higher, while the market quantity hasn't changed much at all.

B. No curves are shifting and yet the quantity sold has fallen, as has the price that people pay. Label anything of economic interest that might apply on the graph. (Yeah, this one might make you think for a while.)

3. Orbitz is a travel website and their profits are related to the amount of spending that people do through their service. Orbitz can tell what sort of computer people are using to view its services and last week is was reported that people who searched for travel bookings on Orbitz while using Apple Mac computers were steered toward higher priced services. It should be noted that the average household income for adult owners of Mac computers is $98,560, while the average PC-owning adult earns $74,452.

Using the tools of this class, analyze what Orbitz is trying to do. Does this cause Dead Weight Loss? Briefly explain.

4. In his 1632 work *Dialogue*, Galileo Galilei wrote: "What greater stupidity can be imagined than that of calling jewels, silver, and gold 'precious,' and earth and soil 'base'? People who do this ought to remember that if there were as great a scarcity of soil as of jewels or precious metals, there would not be a prince who would not spend a bushel of diamonds and rubies and a cartload of gold just to have enough earth to plant a jasmine in a little pot, or to sow an orange seed and watch it sprout, grow, and produce its handsome leaves, its fragrant flowers, and fine fruit. It is scarcity and plenty that make the vulgar take things to be precious or worthless; they call a diamond very beautiful because it is like pure water, and then would not exchange one for ten barrels of water."

In terms of marginal analysis, what is Galileo's point?

5. Elasticity: For each incremental rise in price, state whether the following demand curve is elastic, inelastic, or unit elastic.

P	$2	$5	$8	$11	$14	$17	$20	$23	$25
Qd	100	80	70	65	60	50	45	30	20
Rev									
Elasticity	---								

6. Monopoly (Hint: This demand curve is the same as in the previous question.)

P	$2	$5	$8	$11	$14	$17	$20	$23	$25
Qd	100	80	70	65	60	50	45	30	20

A. Using above the demand curve from the above problem, and supposing that the cost of producing each unit were $5, draw a graph to show what a monopolist would choose to do (assuming the monopolist could not price discriminate and had to pick one of the listed prices). Indicate on the graph the amount sold, the price, the profit, and the dead weight loss. Calculate the actual profit.

B. Suppose that two people where to quietly come to the monopolist above and convincingly indicate that they would really like to buy some of the product, but neither could afford the price charged by the monopolist to the general market. One was willing to pay $11 and the other was willing to pay $4. Should the monopolist do a deal with either or both of them? If so, what would be the effect on the monopolist's profits?

7. Quota I: Consider the following demand and supply curves.

P	$5	$10	$15	$20	$25	$30	$35	$40
Qd	100	80	70	65	60	50	45	30
Qs	40	45	50	55	60	65	70	75

Suppose that government limits the quantity to be only 45. Draw this on a graph. What would the market price be? Label the "rents" paid to suppliers and any resulting DWL.

8. Quota II: Sugar farmers are about 0.0002% of the US population are benefited by government imposed quotas that limit sugar imports from the rest of the world. Shouldn't such government rules get voted down by those who represent the vast majority of Americans? Briefly, explain.

9. Suppose that a new product is introduced and that there are many willing customers and suppliers. However, it's a new market and so we really have no idea what the equilibrium price and quantity will be. How would Marshall describe the process of going from zero quantity to equilibrium? Why would the process stop there?

10. To the surprise of many, in his *Wealth of Nations*, Adam Smith wrote that "_____ is the cause of the increase in public opulence, which is always proportioned to the industry of the people, and not to the quantity of gold and silver, as is foolishly imagined."

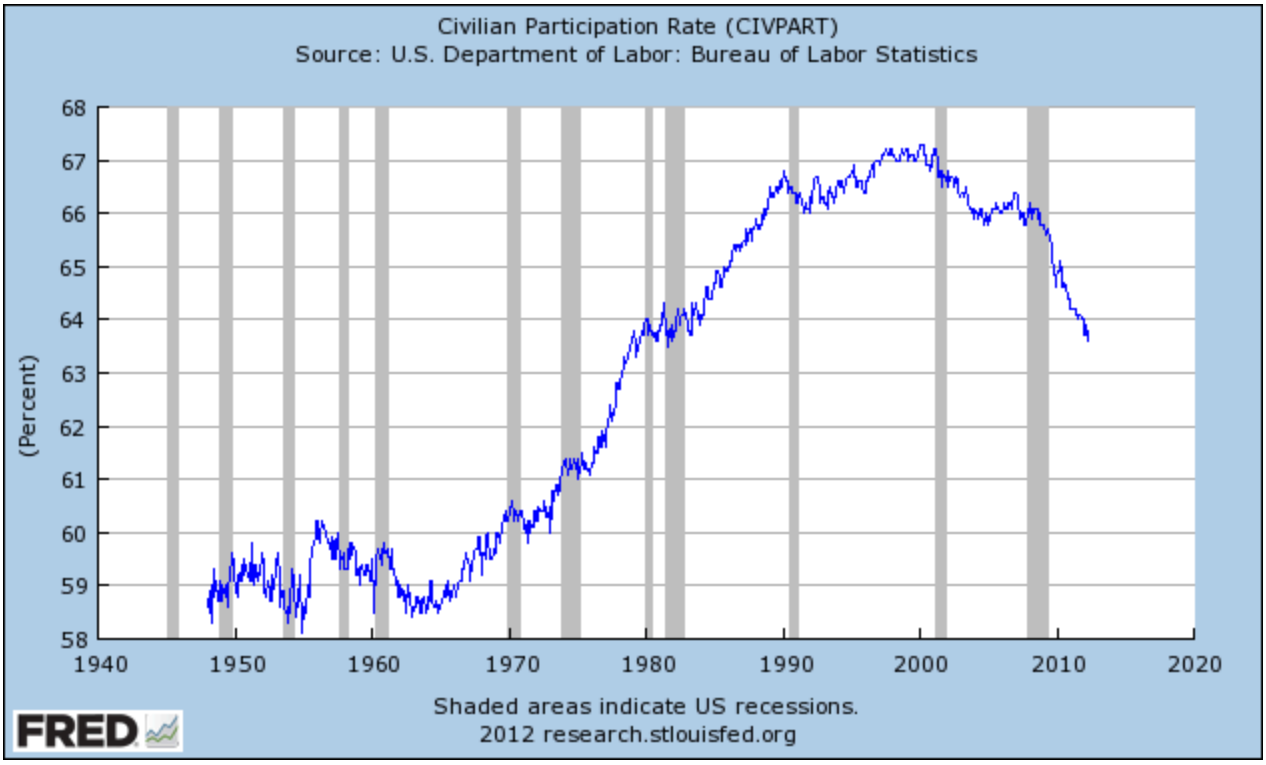
What did Smith think was the main source of "public opulence", that is, economic growth per capita? Briefly, how did this work?

11. Imagine two economics that start with the same Production Possibilities Frontier. Call one "J" and the other "US."

- On the vertical axis, have "Consumption" and on the horizontal "Investment." Label this curve "A."
- Suppose that J chooses to be at an efficient point that has more investment than at the efficient point chosen by US. Draw future the PPFs for each country, and label them B-US and B-J.
- If in the future both J and US choose to be at the same point for consumption and investment, will this point be inefficient, efficient or unattainable for each country? Briefly explain.

12. From a social standpoint, do people wash their hands as much as they should? Why or why not? Show this on a graph, and indicate why this is or is not a problem.

13. Below is a graph of the Civilian Labor Force Participation Rate for the US.



Why did the rate rise so much from 1965 to 2000? What effect did this have on Real GDP per capita? Did this rise in RGDP per capita reflect a pure gain in social welfare? Briefly explain why or why not.

14. Investment in housing in the US fell off rapidly in 2008. On a graph of Aggregate Demand and Short Run Aggregate Supply, show what this would be expected to do to Real GDP, employment, and the price level.

15. What are the Unemployment Rate and Labor Force Participation Rates in Panem (home of the Hunger Games)? (Population of 16 people)
Katniss works as a hunter, selling meat at the Hob.
Haymitch would like a job, but knows no one would hire an alcoholic like him.
Peeta earns his living by decorating cakes.
Gale works as a coal miner.
Snow and **Coin** work for the government.
Mrs. Everdeen works as a nurse.
Rue is currently between jobs but looking to climb the corporate ladder.
Finnick would love to be a fisherman, but can only find part time work.
Annie has health problems and so can't work or even look for work.
Mags could work but chooses to be retired.
Cinna used to work as a clothing designer, but recent controversial outfits have ruined his reputation so he's looking for any paid work he can find.
Octavia, Venia, and **Flavius** work as make-up artists.
Tigris works part time in retail but is seeking the purrfect full-time job.

What is the Unemployment Rate in this group? What is the Labor Force Participation Rate?

	Question	Score
1.	Supply & Demand I	
2.	Supply & Demand II	
3.	Orbitz	
4.	Galileo	
5.	Elasticity	
6.	Monopoly	
7.	Quota I	
8.	Quota II	
9.	Alfred Marshall	
10.	Adam Smith	
11.	Production Possibilities Frontier	
12.	Marginalism	
13.	GDP & LFPR	
14.	Investment fell	
15.	Unemployment	
	Total	

ANSWER KEY

1. What is happening in each of these markets? Show it with a graph.

A. A curve is shifting, causing the market price to fall and market quantity to rise. Give an example of a specific factor that might cause such a shift.

ANSWER: The supply curve moves right, perhaps because of better technology.

B. A curve is shifting, causing the market price to fall and market quantity to fall also. Give an example of a specific factor that might cause such a shift.

ANSWER: The demand curve shifts left, perhaps because of the rise in the price of a complement.

2. What is happening in each of these markets? Show it with a graph.

A. Two curves are shifting and the market price is higher, while the market quantity hasn't changed much at all.

ANSWER: Demand shifts right; supply shifts left.

B. No curves are shifting and yet the quantity sold has fallen, as has the price that people pay. Label anything of economic interest that might apply on the graph. (Yeah, this one might make you think for a while.)

ANSWER: A price ceiling below equilibrium pushes down the price and the quantity sold.

3. Orbitz is a travel website and their profits are related to the amount of spending that people do through their service. Orbitz can tell what sort of computer people are using to view its services and last week is was reported that people who searched for travel bookings on Orbitz while using Apple Mac computers were steered toward higher priced services. It should be noted that the average household income for adult owners of Mac computers is $98,560, while the average PC-owning adult earns $74,452.

Using the tools of this class, analyze what Orbitz is trying to do. Does this cause Dead Weight Loss? Briefly explain.

ANSWER: Orbitz is guessing that Mac users have higher incomes and therefore greater willingness to pay for things. It's trying to do market segmentation/price discrimination where Mac users face higher prices than PC users. If this allows more people (both PC and Mac) to book trips, then it shouldn't lead to DWL. (Goodness only knows what Orbitz does with Android and Linux users...but maybe they just don't take vacations.)

4. In his 1632 work *Dialogue*, Galileo Galilei wrote: "What greater stupidity can be imagined than that of calling jewels, silver, and gold 'precious,' and earth and soil 'base'? People who do this ought to remember that if there were as great a scarcity of soil as of jewels or precious metals, there would not be a prince who would not spend a bushel of diamonds and rubies and a cartload of gold just to have enough earth to plant a jasmine in a little pot, or to sow an orange seed and watch it sprout, grow, and produce its handsome leaves, its fragrant flowers, and fine fruit. It is scarcity and plenty that make the vulgar take things to be precious or worthless; they call a diamond very beautiful because it is

like pure water, and then would not exchange one for ten barrels of water."

In terms of marginal analysis, what is Galileo's point?

ANSWER: While good soil to grow food is hugely valuable, on the margin it is plentiful while jewels, silver, and gold are scarce and so more valuable on the margin.

5. Elasticity: For each incremental rise in price, state whether the following demand curve is elastic, inelastic, or unit elastic.

P	$2	$5	$8	$11	$14	$17	$20	$23	$25
Qd	100	80	70	65	60	50	45	30	20
Revenue	$200	$400	$560	$715	$840	$850	$900	$690	$500
Elasticity	---	Inelastic	Inelastic	Inelastic	Inelastic	Inelastic	Inelastic	Elastic	Elastic

6. Monopoly (Hint: This demand curve is the same as in the previous question.)

A. Using above the demand curve from the above problem, and supposing that the cost of producing each unit were $5, draw a graph to show what a monopolist would choose to do (assuming the monopolist could not price discriminate and had to pick one of the listed prices). Indicate on the graph the amount sold, the price, the profit, and the dead weight loss. Calculate the actual profit.

P	$2	$5	$8	$11	$14	$17	$20	$23	$25
Qd	100	80	70	65	60	50	**45**	30	20
Revenue	$200	$400	$560	$715	$840	$850	$900	$690	$500
Costs	$500	$400	$350	$325	$300	$250	$225	$150	$100
Profit	-$300	$0	$210	$390	$500	$600	**$675**	$640	$400

B. Suppose that two people where to quietly come to the monopolist above and convincingly indicate that they would really like to buy some of the product, but neither could afford the price charged by the monopolist to the general market. One was willing to pay $11 and the other was willing to pay $4. Should the monopolist do a deal with either or both of them? If so, what would be the effect on the monopolist's profits?

ANSWER: Selling to the $11 guy would net the monopolist (Price - Marginal Cost) = $11-$5 = $6 of extra profits. Selling to the $4 would lose the monopolist $1 because it costs $5 to make the thing.

7. Quota I: Consider the following demand and supply curves.

P	$5	$10	$15	$20	$25	$30	$35	$40
Qd	100	80	70	65	60	50	45	30
Qs	40	45	50	55	60	65	70	75

Suppose that government limits the quantity to be only 45. Draw this on a graph. What would the market price be? Label the "rents" paid to suppliers and any resulting DWL.

ANSWER: At Q=45, demanders would pay $35 for something that suppliers would have given for $10, so there would be $25 of Ricardian Rents.

8. Quota II: Sugar farmers are about 0.0002% of the US population are benefited by government imposed quotas that limit sugar imports from the rest of the world. Shouldn't such government rules get voted down by those who represent the vast majority of Americans? Briefly, explain.

ANSWER: Political economy. What the sugar growers lack in numbers, they make up in terms of incentive to organize. As for the rest of us, it's just not worth our time for what is, individually a small deal.

9. Suppose that a new product is introduced and that there are many willing customers and suppliers. However, it's a new market and so we really have no idea what the equilibrium price and quantity will be. How would Marshall describe the process of going from zero quantity to equilibrium? Why would the process stop there?

ANSWER: For the first unit of the product, the willingness to pay is way above what the low cost suppliers would demand to be paid, so that unit gets made. The same is true of the second unit and the third until we reach a point where the next buyer is only willing to pay what the next supplier would need to be paid. Suppliers wouldn't want to make more than that because no remaining demanders would be willing to pay as much as they would demand to be paid.

10. To the surprise of many, in his *Wealth of Nations*, Adam Smith wrote that "_____ is the cause of the increase in public opulence, which is always proportioned to the industry of the people, and not to the quantity of gold and silver, as is foolishly imagined."

What did Smith think was the main source of "public opulence", that is, economic growth per capita? Briefly, how did this work?

ANSWER: It's the "division of labour" that drive's Smith's model of economic growth. The more tasks can be divided up, the more each of us can specialize in what we're relatively best at, and the more production we will get in total and per worker. (Buchholz p. 13)

11. Imagine two economics that start with the same Production Possibilities Frontier. Call one "J" and the other "US."

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- If in the future both J and US choose to be at the same point for consumption and investment will this point be inefficient, efficient or unattainable for each country? Briefly explain.

ANSWER: With more investment, the ability to produce both goods would grow. If J invests more, its PPF will grow more. If J has a "bigger" PPF than the US, then if they produce the same amount of consumption and investment then either J is being inefficient or the US is trying to do something unattainable.

12. From a social standpoint, do people wash their hands as much as they should? Why or why not? Show this on a graph, and indicate why this is or is not a problem.
ANSWER: Other than obsessive compulsives, we probably don't wash our hands enough, because we only wash them up to the point that we feel is worthwhile to keep ourselves safe, and not up to the point where on the margin, the cost of washing hands is equal to the marginal benefit to the washer plus the marginal benefit to everyone the washer might infect with slightly less clean hands. As such, it's the classic beneficial externality problem.

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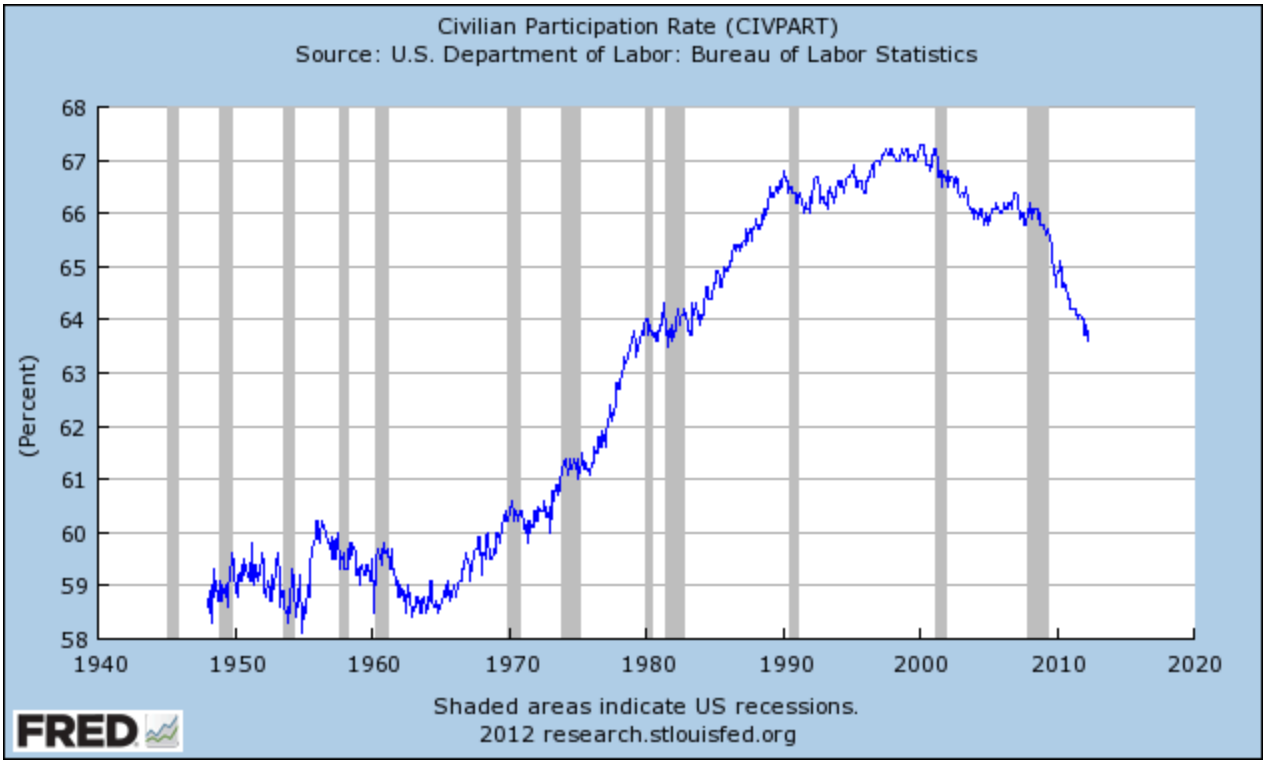

Why did the rate rise so much from 1965 to 2000? What effect did this have on Real GDP per capita? Did this rise in RGDP per capita reflect a pure gain in social welfare? Briefly explain why or why not.
ANSWER: Women with children began to return to the labor market in increasing

numbers. This did raise real GDP per capita, but this was not all a gain in social welfare. There was offsetting loss of leisure time and some of the rise in RGDP represented paid childcare services and increased use of prepared food and similar market convenience items to replace home production.

14. Investment in housing in the US fell off rapidly in 2008. On a graph of Aggregate Demand and Short Run Aggregate Supply, show what this would be expected to do to Real GDP, employment, and the price level.
ANSWER: AD shifts left, reducing RGDP, employment, and the price level.

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What is the Unemployment Rate in this group? What is the Labor Force Participation Rate?
ANSWER:
Working: Katniss, Peeta, Gale, Snow, Coin, Everdeen, Finnick, Octavia, Venia, Flavius, Tigris (11)
Not working, but looking: Rue, Cinna (2)
Out of the labor force: Haymitch, Annie, Maggs (3)
UR = 2/(11+2) = 15%
LFPR = (11+2)/(16) = 81%