14.41 Public Finance & Public Policy
Final Exam
Wednesday, December 18th, 2019
SOLUTIONS

Last Name (Please Print): _____

First Name: _____

Kerberos ID: _____

MIT ID number: _____

Instructions. Please read carefully
This exam has a total of **180 points**. You will have **180 minutes** to complete this exam. This is a closed book exam. Blank pages marked as ungraded may be used for scrap work - do not write final answers on those sheets as they will NOT be graded. You are not allowed to discuss the exam before receiving the grade. ALL EXAM SHEETS MUST BE TURNED IN.

INTENTIONALLY BLANK PAGE FOR SCRAPWORK - UNGRADED

1 True/False/Uncertain (36 points)

For each of the statements below evaluate whether they are true, false or uncertain. Provide brief explanations.

1. (4 points) If individual preferences for a public good are single-peaked, then the median voter theorem tell us that majority voting leads to the efficient level of provision of the public good.

   Solution: False. The median voter theorem would result in the most preferred outcome for the median, which may or may not be the efficient outcome. In particular, if the distribution of preferences is such that the median is equal to the average, then it is efficient.

2. (4 points) The donut hole on Medicare part D is an efficient way of dealing with moral hazard concerns in health insurance.

   Solution: False. It is inefficient. If households are risk averse, providing insurance coverage in the middle of donut hole gives more bang for the buck than providing insurance coverage for the first initial dollars of expenditure in the donut border.

3. (4 points) The Tiebout model tells us that education should be provided and funded by local governments.

   Solution: False. Education has spillovers that cross the borders of local governments. Additionally, in the provision of education we care about redistribution, and this is better done at the national level.

4. (4 points) A negative externality of smoking comes from the fact that it damages the health of the smoker.

   Solution. False. i) If the smoker does not take into account the effects of smoking on his own health this is an "internality", not an externality. ii) The fiscal externalities that are related to smoking, because it may increase medical expenditure that are paid by society are compensated by the fact that it also decreases the smoker life expectancy, diminishing social security expenditures.

5. (4 points) We know from basic principles of tax incidence that the statutory burden of payroll taxes is irrelevant, that is, there would be no real economic consequences from shifting the statutory burden from employers to employees or vice-versa.

   Solution: False. Minimum wages can impede the necessary wage adjustment that is behind the argument that statutory burdens are irrelevant.

6. (4 points) Assuming a competitive labor market, the wage rate is the appropriate measure to value driving time saved.

   Solution: Uncertain. In a competitive model, individuals set the value of their next hour of leisure time equal to their wage. However, (i) individuals cant always freely trade off leisure and hours of work and (ii) there may be non-monetary aspects of the job.

7. (4 points) Government intervention in the credit market for student loans for higher education has led to a potentially unsustainable burden of student debt on recent graduates. This large debt burden is not a problem because it reflects optimal financial investments by young people in their education.

Solution: Uncertain. Student loans are the theoretically optimal means of addressing credit market constraints for higher education. However, there is reason to believe that this may not be the case because students have inadequate information about the value of their education at different institutions. A large share of college debt and default is due to students attending for-profit institutions that have been found to falsely advertise their benefits.

8. (4 points) Governmental procedures for the evaluation of the budgetary impacts of public policy usually take into account a limited time window, from five to ten years. As a result, legislators are sometimes able to manipulate these rules. A stark example is the introduction of Roth IRAs, which had large budgetary costs further in the future.

   Solution: True. Roth IRAs allow taxpayers to save in after tax dollars, being exempt of taxes on withdrawals. Their introduction had a budgetary cost in the future that was not fully taken into account by the Joint Tax Committee, which is responsible for estimating the revenue impacts of tax changes.

9. (4 points) Empirical evidence suggests that unemployed workers in the US are a lot more likely to exit unemployment the week that UI benefits end, than in any earlier week. This is, by itself, definitive evidence of moral hazard.

   Solution: False. Workers might be spending their time looking for better jobs, and they are forced to take the first job that they are offered because UI benefits end. For example, when workers with specialized skills lose their jobs, it may take them some time to find new ones. Taking the first job that they are offered could be inefficient. For it to be evidence of moral hazard one has to verify that if employment insurance benefits were extended, unemployed workers would find a job later but would not find a job that is better suited for them.

2   Short essay questions (20 points)

1. **Child care taxes (10 points)**

   Comment on the advantages and disadvantages of taxing the child care services that are provided by the child's own family. Be sure to evaluate both efficiency and redistributive consequences.

   Solution: Not taxing child care provided at home distorts the choice between working and using market provided child care. From an efficiency point of view one should impute the value of child care services provided at home as income, broadening the base. However, this policy is not so good from a redistributive perspective, as it would increase the tax burden relatively more for the poor.

2. **Contingent valuation methods (10 points)**

   Comment on the pros and cons of using contingent valuation methods compared to revealed preferences approaches.

   Solution: Revealed preferences are often preferred over contingent valuation methods, because practical applications of the former run reveals that respondents give inconsistent answers (such as changing how much they would pay for a particular project by a factor of five depending on the order questions are applied, or giving basically the same willingness to pay for

preserving two thousand birds or two hundred thousand birds. That is, in contingent valuation methods it is often noticed that the isolation of the issue matters, order of issues matters, there is an embedding effect, hypothetical biases, and willingness to pay measures often differ from willingness to accept measures, in a way that is inconsistent with rational choice axioms.

Revealed preferences are based on actual choice and it is often argued that choices are more reflected than words or answers of a questionnaire, since there are real stakes involved. However, they face their own set of problems. First, markets reveal marginal private valuations, so in general we may not be able to extract from prices the average value of a project. Further, we may not be able to extract from market prices the value of externalities.

One situation in which contingent valuation methods are superior to revealed preference is when there are no possible ways to come up with revealed preferences estimates, for example, if one is to assess the demand for preserving rare birds. Another situation is if the actual market decisions are made with less reflection than the contingent valuation responses e.g. the survey might force respondents to think about the subject.

3 Health Insurance (44 points)

MIT has made an agreement with the insurance company Yellow Cross Yellow Shield of Massachusetts to provide full coverage health insurance contracts for their employees and students. Assume that the market for insurance is perfectly competitive.

MIT has provided Yellow Cross with anonymized data where one can see the distribution of past medical expenses of their employees and students, when they did not have an insurance plan. Yellow Cross recognizes in the data that some people visit doctors very often, while others visit them very sparsely.

In particular there are two types of employees and students, and each type accounts for half of the population. The first type has a probability of visiting the doctor of $p_H = 0.5$ and the other type has a probability of $p_L = 0.1$. A visit to the doctor costs 5000 dollars, and the full coverage plan covers it fully.

Further, assume that all employees and students have the same expected utility function, that is, without insurance their utility is:

$$U = -p(W - L)^{-1} - (1 - p)(W)^{-1}$$

where p is the probability of suffering a health event that calls for medical attention (that is, p_H for the high risk type, and p_L for the low risk type). W is their initial wealth and L is how much they spend if have a health issue and must see the doctor. If they sign up for the insurance plan they have to pay insurance premiums, regardless of whether they use medical services or not. Assume everyone has a initial wealth of $W = \$10000$ and a medical visit costs $L = \$5000$.

1. Assume the insurance company can observe the types of students and employees (high risk and low risk).

    (a) (2 points) Calculate the actuarially fair price for full insurance for each type of student/employee.

(b) (2 points) Calculate the expected utility for each type, under the full insurance contract. Which types will buy insurance and why?

Solution: For the risky type, the price of the insurance contract is $0.5 \cdot 5000 = 2500$, and for the low risk type is $0.1 \cdot 5000 = 500$. The expected utility of each type is the utility of their net wealth after paying for the cost of the contract, which is $\frac{-1}{7500}$ for the risky type and $\frac{-1}{9500}$ for the low risk type. Both types will buy insurance because they are charged their actuarially fair price (and they are risk-averse).

2. Assume now that the insurance company cannot observe the types, and therefore has to charge the same price for the full insurance contract.

(a) (5 points) At what price does the insurance company break even?

Solution: Suppose both types buy insurance. Then the price of the contract should be the average of the two prices found before, 1500. At this price the low risk type would get a utility of $\frac{-1}{8500}$, while if he does not buy insurance he would get $\frac{-0.9}{10000} - \frac{0.1}{5000} = \frac{-11}{100000} > \frac{-1}{8500}$. Therefore, the low risk type would not buy insurance at this price, nor at the higher price that is actuarially fair when only the risky types buy insurance. So the price that makes the insurance company break even is the 2500 dollars.

(b) (5 points) What is each type's expected utility now? Assuming the government is utilitarian (the social welfare function is the sum of each individual utility function) what happened to social welfare relative to the situation where types could be observed?

Solution: The risky type expected utility is $\frac{-1}{7500}$ and the expected utility for the low risk type is $\frac{-11}{100000}$. Adverse selection has driven the low risk type out of the market, and only the risky types now can buy insurance. Social welfare is lower than if types could be observed, because $\frac{-11}{100000} - \frac{1}{7500} < \frac{-1}{9500} - \frac{1}{7500}$

3. (5 points) Consider now that the insurance company could also offer different contracts other than full insurance. Intuitively, without doing any math, explain why the insurance company would want to offer an additional contract. Describe what this contract would look like.

Solution: The insurance company could offer a partial insurance contract for the low risk type, because the insurance company knows that they would be willing to pay more than the actuarially fair price. The insurance company would also want to make sure that it does not attract the high risk type, because otherwise this contract could become unprofitable.

4. (5 points) Suppose MIT decides to subsidize health insurance. Why would MIT want or not want to do that? What would be the minimal subsidy that generates an efficient provision of full coverage health insurance contracts?

Solution: By giving a subsidy, MIT can make sure everyone gets insurance. Because everyone is risk averse, and absent moral hazard concerns, this guarantees that, we get an efficient allocation. However, the subsidy implies that there will be some implicit transfers between different types of employees and students, and MIT may not be able to pay everyone according to their marginal product, or attract the same set of students. The minimal subsidy that generates an efficient provision of health insurance contracts is one that makes the low types indifferent between signing in or not, that is, the price of insurance should be:

$$\frac{-1}{W - P} = \frac{-1}{10000 - P} = \frac{-11}{100000}$$

6

$$P = \frac{10000}{11} \approx 909.09 \; dollars$$

Which implies that the subsidy, the difference between the actuarially fair price and P $S =$ $1500 - \frac{10000}{11} = \approx 590.91$.

5. Now the company has carefully decided on the price, and it is offering only the full insurance contract. The company has noticed that everyone's insurance claims have risen considerably relative to what was observed in the data set they received, when no one had insurance.

   (a) (4 points) How could you set up an empirical strategy, using the data the insurance firm has now, to see what effect the new contract has on medical spending?

   Solution: The most accurate way of capturing the effect of health insurance on consumption of health services would be a dif-in-dif estimator. We would compare the difference of health consumption services for people who obtained health insurance and people who didn't, before and after they received the insurance. The low risk types work as a control group, because they do not buy insurance when the insurance firm offers the full insurance contract at the price we found in 2.a.

   (b) (4 points) Based on past evidence, what do you expect from your empirical results? How do you expect health insurance to affect health care utilization and health outcomes?

   Solution: We would expect that people who are on the insurance plan, start consuming more health services after they enroll, which is evidence of moral hazard, as in the RAND experiments. Because the low risk types also have increased their health services utilization, even though they have no insurance, the estimated moral hazard effect will be smaller than just doing a before vs after comparison. Previous evidence on health outcomes indicate we should not expect significant improvements in insureds' health.

6. (a) (4 points) What are some ways that MIT could regulate health care contracts to better deal with adverse selection?

   Solution: If there is no moral hazard, MIT could have imposed a mandate on its students and employees and asked for full insurance contracts. The problem with this kind of policy is that healthy employees would be effectively subsidizing the low health employees, and MIT may need to change salaries to attract the same pool of employees. Alternatively, MIT could have asked for two contracts, one with full insurance and the other with partial insurance, such that the former is appealing only to the low risk types.

   (b) (4 points) What could MIT do to take care of moral hazard concerns?

   Solution: To deal with moral hazard, MIT could have less than full insurance contracts with some cost sharing on the patient side, and also some form of managed care to deal with moral hazard on the the side of the health providers. For example, Yellow Cross could provide the health services directly, effectively becoming a health maintenance organization.

   (c) (4 points) How do policies that are designed to deal with adverse selection and moral hazard interact?

   Solution: The mandate, that takes care of adverse selection, would make moral hazard worse. The additional patients now do not bear the financial costs of going to the doctor,

they have incentives to go more often. In general, we would like to make all contracts less generous, trading off consumption smoothing benefits to the moral hazard costs.

4 Taxation on labor supply and savings (40 points)

Individuals in Neverland live for two periods and leave no bequests. They work for a wage w, consume and save (at an interest rate r) in the first period and consume in the second period. Each individual has a utility function given by:

$$U = c_1 + \beta ln(c_2) - \frac{2}{3}L^{3/2}$$

where $c_1 > 0$ is consumption of period 1, $c_2 > 0$ is consumption of period 2 and $L > 0$ is labor. $\beta \in [0, 1]$ is a preference parameter. Assume that wages are high enough so that you don't have to worry about consumption being negative.

1. (2 points) Write down the intertemporal budget constraint of each individual.

   Solution:

$$c_1 + \frac{c_2}{1 + r} = wL$$

2. (a) (2 points) Write down the maximization problem of each individual.

   Solution:

$$\max_{c_1, c_2, l} U = c_1 + \beta ln(c_2) - \frac{2}{3}L^{3/2}$$

$$s.t. \quad c_1 + \frac{c_2}{1 + r} = wL$$

   (b) (4 points) Compute consumption for each period and labor supply.

   Solution:

$$\mathcal{L} = c_1 + \beta ln(c_2) - \frac{2}{3}L^{3/2} - \lambda[c_1 + \frac{c_2}{1 + r} - wL]$$

$$F.O.C. :$$

$$1 = \lambda$$

$$\frac{\beta}{c_2} = \frac{\lambda}{1 + r}$$

$$L = w^2$$

Substituting back into the budget constraint, we get:

$$c_2 = \beta(1 + r)$$

$$c_1 = w^3 - \beta$$

Note to the graders: *Parameter values in the beginning are such that c_1 is positive.*

3. (a) (2 points) What happens to hours of work when wages go up? Explain the intuition.

   Solution: Labor depends positively on the wage, so hours of work go up when the wage is higher. This means that in this case the substitution effect is stronger than the income effect (which is actually zero in this case).

   (b) (4 points) What is the elasticity of labor supply? How does this number relate to the empirical evidence on labor supply elasticities?

   Solution: Labor supply elasticity in this case is 2. The empirical evidence shows that for primary earners the labor supply elasticity is close to zero, at the magnitude of 0.1. This means that this model's prediction about labor supply is not consistent with the empirical evidence.

4. (a) (2 points) Compute savings.

   Solution:

$$s = wL - c_1 = \beta$$

   (b) (2 points) What happens to savings when interest rates go up? Why? Explain in terms of income and substitution effects?

   Solution: Savings do not change when interest rates go up. The income and substitution effects cancel out with these preferences.

   (c) (4 points) What does your finding imply for the effectiveness of tax subsidies to retirement savings? What is the available evidence on tax subsidies versus other tools to increase retirement savings?

   Solution: The finding implies that tax subsidies would not work to increase savings. Indeed, the empirical evidence shows that nudges, for example, making mandatory for employer to set a high savings plan as a default option, still allowing employees to change their savings decisions it if they want to, are much more effective for increasing savings.

5. (a) (4 points) Considering the results that you found in parts 3 and 4, what does this imply about the optimal tax on labor versus savings? How does this relate to the existing taxation of labor and savings in the US today?

   Solution: It implies that the tax on savings should be higher than the tax on labor since savings are more inelastic. The right way to reach this conclusion in this model is

however by noticing that for c_2 and L, income elasticities are zero, and c_2 is less elastic with respect to $1/(1+r)$ than L with respect to W. A tax on savings is equivalent as a tax on c_2. Currently in the U.S. the opposite is true: there are larger taxes on labor (income and payroll taxes), than on savings. There are subsidies on savings for retirement (401k, IRAs, Roth IRAs, etc).

(b) (4 points) What are the arguments in favor of the relative balance of taxation on savings and labor in the US today? What are the arguments against that relative balance?

Solution:In the US today we have larger taxes on labor than on savings, and both taxes are progressive basically progressive, that is, marginal taxes are higher for high savers and high earners.

The most elastic labor supply is the supply of the rich. So for efficiency reasons, one would like to tax the rich less at the margin than the poor. This conflicts with equity reasons, based on which one would like to tax the rich more.

For savings there is more uncertainty surrounding what is the right elasticity, and therefore what are the efficiency implications. In favor of low taxes on savings is the idea that a compounding tax on savings implies a ever growing tax on consumption in the future, and exploding distortions. On the other hand, high savers tend to be high ability folks, so that taxing savings can be an efficient way to redistribute income.

6. Now suppose the government implements a social security program aimed at increasing the overall savings in the economy. The program is financed by a tax τ on labor in the first period, and it provides a flat cash transfer T to each household in the second period.

(a) (3 points) How will this impact labor supply? Explain intuitively and solve. Assume that wages are high enough so that you don't have to worry about consumption being negative.

Solution: The new budget constraint is:

$$c_1 + \frac{c_2}{1+r} = (1-\tau)wL + \frac{T}{1+r}$$

maximizing in the same way as before, yields:

$$c_2 = \beta(1+r)$$

$$L = w^2(1-\tau)^2$$

$$c_1 = w^3(1-\tau)^3 - \beta + \frac{T}{1+r}$$

So labor supply decreases. In this case, there are only substitution effects and income effects are zero.

Note to the graders: *It is ok if they just say income and substitution effects together are zero.*

(b) (3 points) How will this impact savings? Explain intuitively and solve.

Solution: Solving for s, we have:

$$s = (1 - \tau)wL - c_1 = \beta - \frac{T}{1 + r}$$

So private savings decrease. However, total savings are still β. The intuition is that the agents can exactly undo the governmental policy, and end up with the same level of savings they had before. There is 100% crow out of private savings, as long as $\beta \geq \frac{T}{1+r}$. If $\beta < \frac{T}{1+r}$, then if they are allowed to borrow against their social security benefits, there is still 100% crowd out. Otherwise, there is zero crowd out and private savings are zero.

(c) (4 points) How do these effects compare to the empirical evidence on the impacts of the Social Security program?

Solution: The empirical evidence is that when social security is made more generous there is partial crowd out of savings but not 100%. Therefore, the model is broadly speaking not in line with the empirical evidence on the crowd out effects of social security.

5 Taxes and Externalities (40 points)

In Jersey city, individuals consume only two beverages, beer and orange juice. The local government raises its revenues through separate excise taxes on these two beverages, t_b and t_j. The beverages each cost $1 before tax. So the tax levels and tax rates are the same (e.g. a 50 cent tax is a 50% tax).

1. (3 points) The mayor has hired some econometricians that have estimated that individual demand for beer follows the following formula: $B = \alpha \cdot (p_B)^{-\beta}$, while the demand for orange juice is given by: $J = \gamma \cdot (p_J)^{-\delta}$, where B is the amount beer consumed, and J is the amount of orange juice consumed. p_A and p_J are the final consumer prices that include excise taxes t_B and t_J Prices are measured in dollars per liters. Compute elasticities of demand for these two goods.

Solution: The elasticities of demand are $-\beta$ and $-\delta$.

2. (3 points) The econometricians, without estimating it, said that the supplies of orange juice and beer in Jersey city are basically perfectly elastic. Comment on why this assumption may or may not be reasonable.

Solution: Because Jersey City is relatively small compared to the size of the market of orange juice and alcoholic beverages this assumption is reasonable. However, once we take into account that to sell more orange juice and alcoholic beverages, there are also transportation costs, local labor that is taken from other activities, we should expect the supply elasticity to be small but still positive.

3. (5 points) The mayor asks for your advice on the ratio of optimal taxes on beer and juice. Compute that ratio and explain to the mayor which market would have higher taxes and why. Ignore externalities in this question, and assume supply is perfectly elastic.

Solution: The Ramsey rule states that taxes τ should be proportional to the inverse of the elasticity. Therefore $\frac{\tau_J}{\tau_B} = \frac{\beta}{\delta}$, where $\tau = \frac{t}{1+t}$. The basic intuition is that when the elasticity is higher increasing taxes generate a higher deadweight loss (the basis of the triangle increase faster when you increase its height, thus the total are increases faster). The way to rightly balance the marginal deadweight losses at the different markets is to increase taxes proportionally to the inverse of the elasticity (assuming cross-elasticities are zero). If you do the exact derivation, this is the result you would have found. Using the approximated formulas for deadweight loss, as in the book, you would have found that $\frac{t_J}{t_B} = \frac{\beta}{\delta}$, which is also good.

4. (a) (4 points) The mayor of Jersey City hires an economist who mentions that alcohol has negative externalities because its consumption increases the number of accidents and decreases the productivity of not just the workers who consume it but also their co-workers. Each additional liter of consumption of alcohol is responsible, on average, for accidents and other harms costing around one thousand dollars and occurring with a probability of 0.05%. How should the presence of the externality impact the ratio of optimal taxes across these goods? Explain intuitively and solve for the new optimal tax ratio.

    Solution: First, to correct the externality, we should set an excise tax on alcohol that is equal to the monetary value of the externality, that is $0.0005 * 10000 = 0.5$.

    (b) (6 points) When the mayor was about to enact the corrective taxation on top of the tax rates you computed before, she realized that she would raise too much revenues, in excess of the amount she needs to raise. She also wonders whether the ratio of the taxes she found before was right. Are her worries well grounded? What should be t_B as a function of t_J, elasticities, and the externalities? Explain.

    Solution: After we correct for the externality, we can apply the Ramsey formula for liters of externality corrected beer.

    That is, define $\tilde{\tau}_B = \frac{\tilde{t}}{\tilde{p}} = \frac{\tilde{t}+t_e-t_e}{p} = \tau_B - \frac{t_e}{p}$ where t_e is the 50 cents externality correcting tax for each liter of beer we found in the previous item, $\tilde{t}$ is the deadweight loss minimizing tax we are imposing on top of it, and τ_B is the proportional tax we are imposing on the consumption of beer.

    Then, using that taxes DWL minimizing taxes should be proportional to elasticities:

    $$\tilde{\tau}_B = \tau_J \frac{\delta}{\beta}$$

    $$\tau_B = \tau_J \frac{\delta}{\beta} + \frac{t_e}{p}$$

    That is, intuitively, τ_B should be higher than the ratio found before, since we also need to correct for the externality. The mayor was right in worrying about the ratio. Notice that using that $p \approx 1$, the formula above is just saying that you can increase

    OBS: Using the approximated formula for deadweight loss you would find

    $$t_B = t_J \frac{\delta}{\beta} + t_e$$

5. (6 points) The citizens of Jersey City, outraged with the tax reform the mayor has enacted, decide to hold a series of referendums over different tax plans. Suppose preferences for alcohol and orange juice are perfectly negatively correlated in the population, there is just a small fraction of the population who are heavy consumers of alcohol, and more than half the population does not consume alcohol in any measure. What is the likely outcome of the votes? What else could happen in this process?

Solution: Because the median voter does not consume alcohol, the tax reform approved on the plebiscite would overtax alcohol relative to the optimal, and may well not tax orange juice at all. However, because the heavy consumers of alcohol are few, they can organize themselves and lobby against this tax reform, managing to push the reform closer to the optimal (if they are too powerful they may even make taxes on alcohol be lower than the optimal).

6. Another economist has noticed that most alcohol that is consumed in Jersey City comes from local breweries, and therefore it is unreasonable to assume that the supply of alcohol is perfectly inelastic. She has estimated elasticity of supply of alcohol in Jersey City is actually 0.5. Local breweries use land, capital and labor as inputs in their productive process.

   (a) (3 points) If the government uses the taxes you found in question 4, would it raise more or less taxes than expected?

   Solution: Draw a graph with supply and demand, one can see that the same tax rate would raise more revenues because supply is less elastic.

   (b) (3 points) Who will bear the burden of those taxes in the short, medium and long run?

   First, part of the burden now will fall on the producers and part on the consumers. On the producer side, in the short run, capital and land are inelastic, so they the burden on producers. The other part of the burden fall on consumers. In the medium run, capital and labor are elastic and land also inelastic, so the producers burden fall relatively more on land, and the rest is split between labor and capital. In the long run, capital and labor are perfectly elastic, so all producer burden falls on the landowners. Demand also is expected to be more elastic in the long run, as consumers can change their habits. The extent to which demand becomes more or less elastic relatively to supply, the burden will shift from consumers to producers.

   (c) (3 points) How your answer for (b) would change if there is a minimum wage for Jersey City workers? What if beer producers had previously lobbied for minimum beer prices?

   If there is a minimum wage and it is binding for the workers in the beer industry, then the burden cannot fall on them. The burden on the short and medium run is shared between landowners and capital. If there are minimum beer prices, then the incidence depends on whether the initial tax was imposed on consumers or producers. If it was imposed on consumers, and the minimum beer price is on the producer price, then the producer price cannot fall, and the burden would fall proportionally more on the consumers.

   (d) (3 points) How are tax burdens different if most of the beer consumed in Jersey City is not produced in Jersey City itself but in the nearby city of Newark?

   First, the producer burden would fall on workers, capitalists and landowners that are from Newark. Second, because the burden does not fall as much on Jersey City workers, workers will consume more in Jersey City, so the overall burden on Jersey City inhabitants - including those who do not drink beer nor work at breweries - will be smaller.

Students for Open and Universal Learning
https://soul.mit.edu
https://mitsoul.org

MIT 14.41 Public Finance and Public Policy
Fall 2022