A. True or False

Explain your answer fully carefully, since all the credit is based on the explanation. Your grade depends entirely on the substance of your justification, not on whether you are correct in writing “True” or “False”. Note that it is possible to answer each question for full credit with three sentences or fewer, and answers longer than eight lines long will not be graded.

1. Because the free market delivers efficient outcomes, the government should not intervene in the economy.

SOLUTION: False, there are two key roles of government: addressing market failures (situations where the free market fails to deliver efficient outcomes) and addressing inequality through taxes and transfers.

2. If society cares about inequality, optimal tax theory tells us that the government should provide a basic transfer for those with no earnings, but this transfer should be phased-out quickly as earnings increase.

SOLUTION: True in the basic optimal tax model where individuals respond along the intensive labor supply margin. However, if individuals respond primarily along the extensive margin (whether or not to work), that conclusion is overturned. In this case, it is desirable to have low phasing-out rates to provide strong incentives to work for low-income workers (for example using EITC type transfers).

3. If high income earners can easily avoid or evade income taxes, the top income tax rate should be low.

SOLUTION: True in a narrow sense. If the tax system is taken as given and the only policy tool in changing the rate, high top income tax rates are not desirable if the elasticity due to tax avoidance/evasion is large. However, the government can reduce this tax avoidance/elasticity by eliminating tax loopholes. Once this is done, the tax base is less elastic and hence it might possible to tax the rich effectively.

4. Evidence of bunching around the first kink point of the EITC implies that the standard economic model of labor supply works.

SOLUTION: False. While it is true that bunching at the first kink point of the EITC is predicted by the standard economic model, the evidence shows that such bunching comes from the self-employed (there is no such bunching for pure wage earners). As a result, bunching arises from the self-employed who report earnings to maximize their tax refunds (as the Tax Authority has no easy way to verify their numbers). Therefore, this is a tax evasion phenomenon, not a labor supply phenomenon.

5. Goods whose demand is price inelastic should be taxed more.

SOLUTION: A tax on a good whose demand is inelastic produces relatively less deadweight burden. Hence, if the goal is to raise taxes to minimize deadweight burden, then indeed goods whose demand is price inelastic should be taxed more. However, this “Ramsey tax rule” does not take into account redistributive considerations. For example, the poor may use their cars more in rural areas.

7. The Earned Income Tax Credit (EITC) program in the United States is likely to discourage labor supply on average because most of the recipients are in the plateau or phasing out range of the program.

SOLUTION: False: It is true that along the intensive margin, the EITC discourages labor supply in the plateau and phase-out, but the EITC unambiguously encourages work along the extensive margin of labor supply.

8. Evidence from lottery winners show that there are substantial income effects on labor supply.

SOLUTION: Empirical evidence does show negative effects of lottery winnings on labor supply. Imbens et al. AER 2001 for the United States [and Cesarini et al. (2015) for Sweden] present compelling evidence comparing winners and non-winners conditional on playing. However, the magnitude of income effects is pretty small: $1 reduces earnings by about $0.1 so the empirical effects are not “substantial”.

9. Since the 2000s, the main driver of the gender gap has been differences in education level between men and women.

SOLUTION: False. Since the 2000s, education and more generally human capital cannot explain much of the gender pay gap. Industry and occupation choices as well as child penalty effects (see Kleven, Landais, et al. papers) are the main drivers of the gender pay gap.

10. Labor market institutions have played a role in the rise of wage inequality in the US.

SOLUTION: True. Minimum wage, unions, taxation, market power, globalization, and access to college education are all examples of institutions that have affected, one way or the other, rising wage inequality.

B. Other questions

1. Explain in your own words the equity-efficiency trade-off of taxation.

Answer: There are two main effects of taxation on revenue. On the one hand, there is a mechanical effect. Everything else constant, higher taxes imply more revenue. However, higher taxation also affects incentives (for example, reducing the incentives to work) and therefore introduces ”behavioral responses” that play in the opposite direction. The higher the tax rate, the higher the mechanical effect, but the higher the behavioral responses as well.

2. Consider Naritomi (2019, AER) on a quasi-natural experiment using data from São Paulo.

a) Explain how the Nota Fiscal Paulista (NFP) program uses consumers as “tax auditors”. What is the general idea behind it?

Answer: The VAT faces the “last mile” problem. That is, the self-enforcing property of the VAT breaks down at the final consumer stage. Usually, there is no benefit for consumers derived from asking for a receipt. As consumers do not ask for a receipt, there is an incentive for firms not to issue a receipt and to underreport revenues from their sales to final consumers. The NFP introduces a monetary incentive for consumers to ask for a receipt: a lottery ticket with which consumers can win monetary prizes.

b) Explain how the paper identifies the impact of the NFP program on firms’ revenues reported using sector data.

Answer: Even though the NFP program treats all taxpayers equally, taxpayers are differently affected by the NFP program. The paper exploits that wholesale firms (that mainly sell to other firms) are less affected by the NFP program than retail firms are (as they are mostly selling to consumers). Naritomi uses a difference-in-differences analyses to investigate differences in the changes in revenue reported between retail and wholesale firms

c) What are the identifying assumptions? Do these assumptions plausibly hold in the studied context? What is the main concern with respect to the identification strategy?

Answer: •Parallel trend assumption -> Figure 2 (left panel) shows that reported revenue changes closely trace each other until the NFP was implemented (except for slightly different patterns in seasonality; the retail time series exhibits spikes in December) •No shocks that heterogeneously affect retail and wholesale firms. -> Difficult to test, no indication for such heterogeneous shocks. •No selection into treatment. -> Unlikely that a firm chose its type of business and type of customer in anticipation of the policy

Concern with DD: wholesalers also sell to consumers. If these consumers got habituated to ask for receipts, wholesalers also receive more demands for receipt (control is also partially treated).