

## Public Finance Field Exam, August 2018

**Directions:** Answer all questions, in whatever order you prefer.

### 1. Tax Reform

The Tax Cuts and Jobs Act of 2017 (TCJA) was the most substantial change to the U.S. income tax code in decades. Answer the following questions. Answers to some questions may be more succinct than others.

- (1) TCJA reduced the U.S. corporate tax rate from 35% to 21%. For U.S.-based multinational corporations, TCJA instituted a provision called the Global Intangible Low Tax Income provision (GILTI) that assesses a 10.5% immediate tax on the multinational's total foreign income in excess of 10% of the firm's total foreign tangible capital assets (e.g. factories, machinery, etc.). (E.g. If the firm has \$1000 of foreign tangible assets and earns \$500 in foreign income, it has to pay a 10.5% tax on \$400.) This tax liability is offset by a tax credit for 80% of foreign taxes paid on the income subject to the GILTI provision, meaning that such "GILTI income" is subject to some U.S. tax only if it is taxed abroad at an average rate below 13.125% (because  $10.5 = 0.8 * 13.125$ ). The multinational pays no additional taxes when the foreign profits are repatriated, whereas under previous law repatriated profits were taxed, with a tax credit up to the U.S. 35% tax rate for foreign taxes paid on these repatriated profits. Discuss the effects of these provisions on a U.S.-based multinational's decision on where to locate its factories and where to try to log its profits (e.g. by transfer pricing), relative to what was in force in 2017. Discuss the same for a German-based multinational's decision on where to locate its factories.
- (2) For high-income owners of pass-through businesses, TCJA makes the marginal tax rate on pass-through business income 30%. However, a higher rate applies---37%, the same as the marginal labor income tax rate for high-earners---if the business has very high profits relative to measures of non-owner activity (the magnitude of total wages paid by the firm, and the magnitude of the firm's tangible capital assets). What do you think is the rationale of this exception to the 30% pass-through rate?
- (3) With the marginal tax rate on C-corporations at 21% and the marginal tax rate on (large) pass-throughs at 30%, does that mean that the tax code now privileges C-corporations? Why yes, no, or maybe depending on what calculation?
- (4) Let's suppose that C-corporations are now tax-privileged relative to pass-throughs. Let's suppose that all manufacturing firms are C-corporations and that all service firms are pass-throughs. Evaluate the incidence this differential tax treatment, relative to a world in which there is no business income taxation. Assume enforcement is perfect, as in the Harberger model. Adopt Harberger model assumptions in your evaluation. Then also discuss the potential impact of real-world deviations from the Harberger assumptions.
- (5) TCJA provides for favorable capital gains tax treatment on investments in "Opportunity Zones": specifically designated low-income neighborhoods. Under

what conditions will OZ landowners benefit, and under what conditions will the residents of OZs benefit? What does the evidence on Empowerment Zones suggest about the likely incidence of OZs? Can it make sense to use empowerment/opportunity zones for redistribution, given the government's ability to adjust the progressive income tax instead? Why or why not?

## 2. Universal Basic Income (UBI)

Universal Basic Income (UBI) proposals are getting a lot of attention in the U.S. and other high-income countries. A wide range of proponents, from Charles Murray to Andy Stern (former president of the Service Employees International Union), have backed the idea. A pure UBI provides a guaranteed cash benefit to each adult and the benefit is not phased out. Answer the following questions. Answers to some questions may be more succinct than others.

- (1) Compare a UBI to two other types transfer programs provided by most advanced countries: cash welfare (e.g. AFDC in the U.S.) and in-work benefits (e.g. EITC in the U.S.). Your answer should cover predictions for labor supply, poverty, and government costs.
- (2) Discuss the distributional implications of a UBI. To answer this, consider two alternative funding scenarios: (a) eliminating the existing social safety net and replacing it with the UBI (Murray proposal) and (b) funding the UBI with new taxes.
- (3) One argument raised by UBI proponents is that the program will have less stigma than existing transfer programs. Discuss why or why not this would be the case.
- (4) There are several pilot UBIs in development. What could we learn from the pilots in terms of the effects of a UBI that we could not already predict based on the existing research?

## 3. Externalities and Second-Best Policies

- (1) Second Best Taxation - in the presence of pre-existing, distortionary taxes, the excess burden of introducing a new Piguouvian/corrective tax may differ from settings where there are no pre-existing distortions. In particular, one can write the excess burden of introducing a new tax  $t_k$  as

$$EB = -\frac{1}{2}t_k^2 \frac{dh_k}{dt_k} - \sum_{i \neq k} t_i t_k \frac{dh_i}{dt_k}$$

where  $h_i$  is demand for good  $i$  and  $t_i$  is the existing tax on good  $i$ .

- Describe each of the two components in this formula in terms of first and second order welfare changes.
- Empirically, why is this formula difficult to implement in practice?

- Goulder and Williams (2003) outline a set of assumptions sufficient to make progress by assuming no income effects (why?), only focusing on the pre-existing labor tax (why?)
- (2) Boomhower and Davis (2014) explore the efficiency costs of a subsidy designed to incentivize agents to adopt energy-efficient appliances. They argue that the efficiency costs are proportional to the number of inframarginal participants (i.e. the number of people who would have bought the appliance in the absence of the subsidy). Why is this the case?
- How do the authors go about estimating the number of infra-marginal participants in the subsidy program analyzed?
- (3) Externalities associated with certain types of air pollution can be very local (i.e. certain air pollutants do not travel far from their source). Economists often argue that one of the most efficient ways to regulate externalities such as air pollution is through a cap-and-trade system, where total emissions are capped. With a cap on emissions and tradable permits, those firms with low abatement costs can sell permits to firms with higher abatement costs. At the optimum, marginal abatement costs should be equalized across firms. Describe a possible problem with cap and trade programs in the presence of local externalities. What is one possible solution proposed by economists and policy makers?
- (4) The Trump administration recently proposed rolling back fuel economy standards, arguing that greater fuel economy than that of the previous standards would lead to more driving (i.e. “rebound” effect) and increased mortality due to increased driving time/accident risk. Describe why, if consumers are maximizing their own private welfare, this is not a useful justification for the policy.