

Problem Set 7 - Question 2

Younggeun Yoo

November 17th, 2023

Question 2

Artificial intelligence is a powerful writing assistant, but it has been programmed to refuse to support the writing about politically-incorrect ideas. True, False or Uncertain: this technology reduces the wages of writers with politically-incorrect opinions.

Suggested Solution

- Uncertain. Let's first think about labor mobility between politically-correct and politically-incorrect writing sectors (two-sector model, which we've discussed multiple times in problem sets).
- For now, suppose AI reduces demand of labor in the politically-correct sector (more on this in the next slide).
- If labor is not mobile, AI may initially decrease the wages of only politically-correct writers. Nevertheless, it would also decrease prices of politically-correct writings which has subsequent effects on the prices/wages of politically-incorrect writings/writers.
- Direction of such effects would depend on whether politically correct and incorrect writings are complements or substitutes.
- If labor is perfectly mobile, wage is equalized between the sectors in equilibrium. Therefore, introduction of AI decreases demand of writers in the politically-correct sector, which decreases aggregate demand for writers and reduces wages in “both” sectors.

Suggested Solution

- Would AI reduce demand of labor in the politically-correct sector? This is also uncertain (discussion of scale and substitution effect).
- AI assists politically-correct writers, makes them more productive, and brings down the marginal cost. Consequently, a supply curve would shift downwards in politically-correct writing market.
- Scale effect: If the price elasticity of demand for politically-correct writings is high, then quantities demanded would increase much and so would derived demand for politically-correct writers.
- Substitution effect: AI may replace some politically-correct writers, bringing down derived demand for labor. A firm may no longer need to hire as many writers as before when each writer becomes more productive with AI assistants.
- How derived demand of labor would change in response to the introduction of AI depends on relative magnitudes of scale and substitution effects.