

AI and Shared Prosperity: Towards a Framework for Assessing the Labor Market Impact of AI Systems

Background

- The labor market is becoming more and more polarized: wages of top earners are growing, middle-wage jobs are becoming low-wage, less stable, less dignified.
- AI will exacerbate inequality if its advancement contributes to the erosion of labor demand of economically vulnerable categories of workers.
- An alternative path for AI is possible if developers choose to build technologies that boost the demand for labor of vulnerable workers (and, therefore, their income).
- Assessing the Labor Market Impact of AI Systems is difficult because of multiple interacting effects, but we provide a roadmap for how to conduct such an impact assessment..

Objective of the Framework

Equip AI developers with a step-by-step heuristics for predicting the general equilibrium effect of their technology on the labor market.

Example Application: Labor Market Impact of Customer Service Chatbots

Ex: Company C operating customer service centers in PHL is deploying a chatbot technology developed in USA.

1. PHL customer service operators, esp w/o college degrees.
2. AI developers in the US.
3. C can lower prices on its main products slightly , which leads to greater demand and allows C to hire more workers.
4. C will need fewer computers, office space, office services etc
5. Competitors to C may be forced to also reduce workforce.
6. No major increase is anticipated.
7. Wages of regular workers will decline; returns to capital rise.

Overview of the Framework

An organization producing a good/service considers developing/deploying an AI system. What are the labor market effects?

Direct Effects

1. Demand for which categories of workers will be directly lessened, and in which geographies?
2. Demand for which categories of workers will be directly increased, and in which geographies?

Vertical Effects

4. Will the organization need fewer or more intermediate inputs from its suppliers? How will this affect demand for different categories of workers among the organization's supply chain, and in which geographies?

Reallocation Effects

7. How will the market adjust to reflect the new balance of labor demand and supply resulting from these changes?

Demand Effects

3. Will the production of the product/service increase (i.e. because it is now cheaper/higher quality and people want more of it)? Demand for what categories of workers and in which geographies will be created by that increase?

Horizontal Effects

5. How will competing organizations producing substitute products/services be affected? Might they need to downsize their workforces? In which geographies and for which categories of workers?

6. Will the demand for complementary products/services increase and induce their producers to hire additional workers? For which categories of workers, and in which geographies might that boost employment?

Key Geographies Impacted:

