

Democratic control of the means of prediction.
Discussion of Daron Acemoglu

Maximilian Kasy

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Introduction

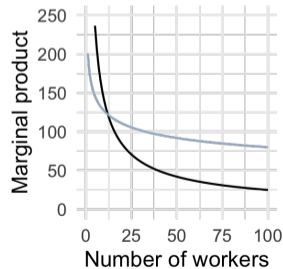
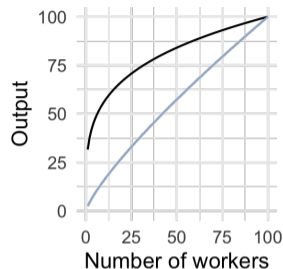
- Daron argues:
 1. Technical progress generates winners and losers.
 2. The direction of technical progress depends on social decisions.
 3. Democratic control is necessary to ensure broadly beneficial decisions.
- I strongly agree, and aim to elaborate.
 - Daron's work: AI as production technology.
 - Here: AI as automated decisionmaking.
- Political economy of AI:
 - AI is optimization of a reward, based on data.
 - Who defines the reward, owns the data, does the optimization?
 - We need democratic control of each of these "means of prediction!"

AI as production technology

- Production function framework:
 - Total output is a function F of inputs used:
 - Number of workers (of different types j), capital, technology.
- If wage = marginal productivity, then

$$w_j = \partial F / \partial L_j.$$

- Technical progress without shared prosperity:
 - Change in technology such that
 - output F increases, but
 - marginal productivity $\partial F / \partial L_j$ decreases.



AI as automated decision-making

- AI is more than just another shifter of the production function:
 - Automated decision-making using machine learning.
 - Building on the insights of optimization and statistics.
- General scheme, covering many paradigms in AI:
 - Optimization of a stream of rewards,
 - by choosing actions
 - based on recorded data.
- Political economy:
 1. Who chooses the objective (reward function)?
 2. Who controls the data?
 3. Who controls the hardware and software to do the optimization?

Political economy of AI (1):

Privacy

- Leading formalization: Differential privacy. (Dwork and Roth, 2014).
 - It should make (almost) no difference whether your data are in a dataset.
 - No matter what other information is available to a decisionmaker.
 - Related: Individual property rights over data.
 - Problem with differential privacy / individual property rights:
 - Primary use of data in ML is to learn *relationships*, not individual data.
 - In econ terminology: There are informational externalities.
- ⇒ Only democratic governance can address harms, not individual property rights. (cf. Viljoen, 2021)

Political economy of AI (2): Explainability, Transparency, and Accountability

- Which algorithmic decisions can be “explained?”
 - “Simple” mapping from data to decisions.
 - But what is “simple” is a moving target.
 - Related: Who is responsible for algorithmic decisions?
 - Alternative perspective:
 - Transparency on objectives and constraints, not on algorithms.
- ⇒ Possibility of public debate on legitimate objectives.
- One step further: Democratic control, rather than plutocracy, in the choice of objectives.
(Is ad targeting really the most socially useful application of AI?)

Thank you!