Guy Lichtinger

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Graduate Study

I am a third-year Ph.D. student in economics at Harvard University, enrolled since 2024. I have completed the first-year core courses and second-year fields in labor and public economics. My main advisors are Lawrence Katz and Jesse Shapiro. I am a Stone Ph.D. Scholar in Inequality and Wealth Concentration. Before Harvard, I completed an M.A. in economics (research track, with thesis) and a B.A. in Philosophy, Political Science, and Economics at the Hebrew University of Jerusalem.

Research Interests

In my research, I focus mostly on how technological change, and generative AI in particular, affects the labor market and inequality. My work combines backward-looking evidence on how AI may already be affecting the labor market with forward-looking models that identify and quantify the main mechanisms through which it can affect inequality.

Working Papers

- **Generative AI as Seniority-Biased Technological Change: Evidence from U.S. Résumé and Job Posting Data** (with Seyed M. Hosseini) [SSRN]:

  There is much public discussion on how generative AI (GenAI) affects the bottom rung of the career ladder. In this paper, we ask whether GenAI constitutes seniority-biased technological change. We develop a conceptual framework in which GenAI adoption disproportionately reduces junior labor demand through task displacement and labor-saving productivity gains. We test the framework's mechanisms and implications using large-scale U.S. résumé and posting data. GenAI adoption is identified using firms' postings for "GenAI integrator" roles. We find that following adoption, junior employment declines in adopting firms relative to non-adopters, while senior employment remains unaffected. This decline is concentrated in GenAI-exposed occupations and is driven by slower hiring rather than increased separations. Moreover, we find evidence that in

adopting firms, GenAI-exposed tasks become less likely to appear in junior task bundles. The paper has been covered by *The Economist*, the *Financial Times*, and *Bloomberg*.

- **Generative AI and Occupational Entry Barriers: The Labor-Supply Channel of Technological Change** (with Seyed M. Hosseini) [SSRN]:

  Work on AI and wages focuses mostly on labor demand: AI automates tasks and makes workers more productive. Yet experiments find that AI helps less experienced workers most, which points to a supply channel. If AI lets less-trained workers do expert tasks, more workers qualify for expert occupations, and the wage premia of those occupations erode. We build a general-equilibrium model in which occupational wages reflect a race between productivity gains and this expansion of supply. Using LLM ratings of 19,265 O*NET tasks, we measure each occupation's Potential Supply Shift, the change in the share of workers qualified to enter it, and its Potential Productivity Gains. The two forces pull in opposite directions: productivity gains widen wage inequality, while lower entry barriers compress it. Which force dominates depends on how substitutable occupations are: the variance of log wages falls by 9% when the elasticity of substitution is 2 and rises by 13% when it is 4.

Work in Progress

- **Generative AI and the Reorganization of Work** (with Seyed M. Hosseini and Can Yesildere):
  A large literature studies how technology, and increasingly AI, shapes wage inequality. In this literature, technology changes tasks but not jobs: how firms bundle tasks into jobs is exogenous. This paper asks how firms organize work, how generative AI will reorganize it, and what this means for wage inequality. We develop a quantitative general-equilibrium model in which firms choose how to bundle tasks into jobs and which workers to hire for each, trading off comparative advantage, coordination costs, and limited worker attention. We discipline the model with new economy-wide data on the tasks of jobs and workers, drawn from online job postings and résumés. In the data, tasks are more often bundled into the same job when they draw on similar knowledge and are costly to coordinate when split. Entry-level jobs hold tasks that are cheaper to separate, which may make them more vulnerable to automation beyond their exposure to AI. Next, we will

introduce AI into the model and compare its effects on the wage structure with and without firm reorganization.

- **AI and the Distribution of Prosperity: A Unified Framework for Understanding How Technology Shapes Inequality** (with Seyed M. Hosseini, Alex Imas, and Benjamin Moll):

  This paper develops a unified framework for understanding how AI affects the personal distribution of income. We begin by decomposing income inequality into three components: labor-income concentration, capital-income concentration, and the capital-labor split. We then trace the mechanisms through which AI affects these components in three steps: (i) *direct effects on production*, including automation, augmentation, new-task creation, changes in entry barriers, and capital deepening; (ii) *the division of productivity gains* between AI suppliers, adopting firms, workers, and consumers, as well as within each group; and (iii) *economy-wide demand effects* generated by the spending and saving of AI's beneficiaries. For each mechanism, we identify the key factors that determine its direction and magnitude, and synthesize the evidence to date. Finally, we discuss how these mechanisms can combine to produce concentrated gains or shared prosperity, and identify empirical indicators that can signal which direction the economy is heading.