Progress Report - Elad Guttman - Supervised by Oren Danieli

Project #1: Outside Options in the Labor Market

Key Contribution: R-package to implement the main statistical method that is available for download: https://CRAN.R-project.org/package=OOI.

Status: Submitted to Review of Economic Studies on January 2021

Project Description:

This paper develops a method to estimate workers' outside employment opportunities. We outline a matching model with two-sided heterogeneity, from which we derive a sufficient statistic, the "outside options index" (OOI), for the effect of outside options on wages, holding worker productivity constant. The OOI uses the cross-sectional concentration of similar workers across job types to quantify workers' outside options as a function of workers' commuting costs, preferences, and skills. Using German micro-data, we find that differences in options explain 25% of the gender wage gap, and that gender gaps in options are mostly due to differences in the implicit costs of commuting and moving.

Key Figure:
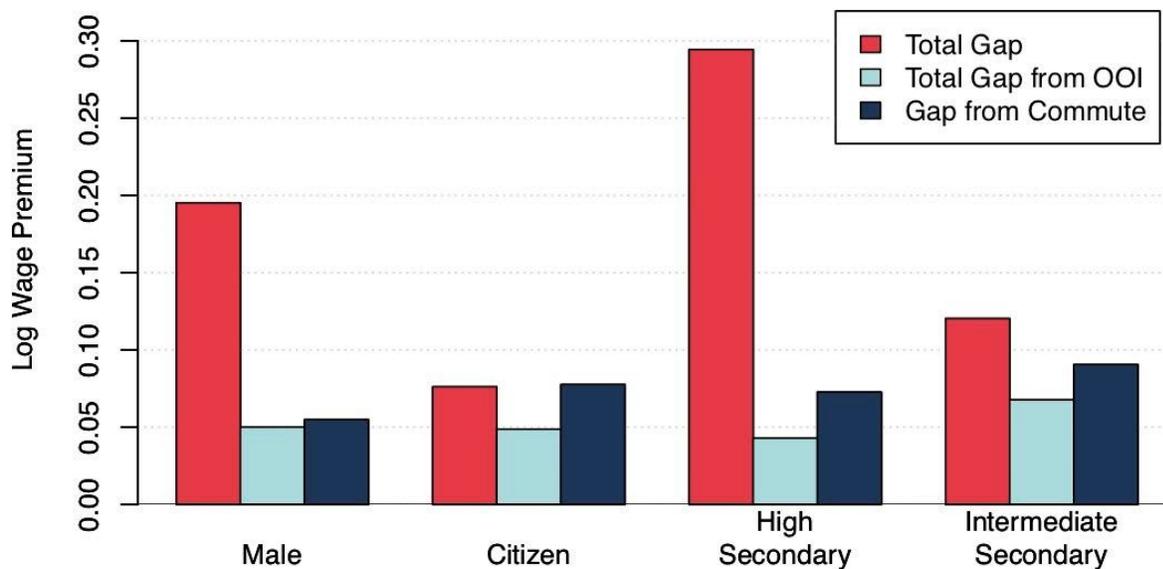
This figure shows the extent to which the between-group wage gap can be explained by differences in the OOI. It shows the overall gap, the gap that can be attributed to the OOI and the gap that is specifically driven by commuting differences.

Plan for next semester: Follow referee comments

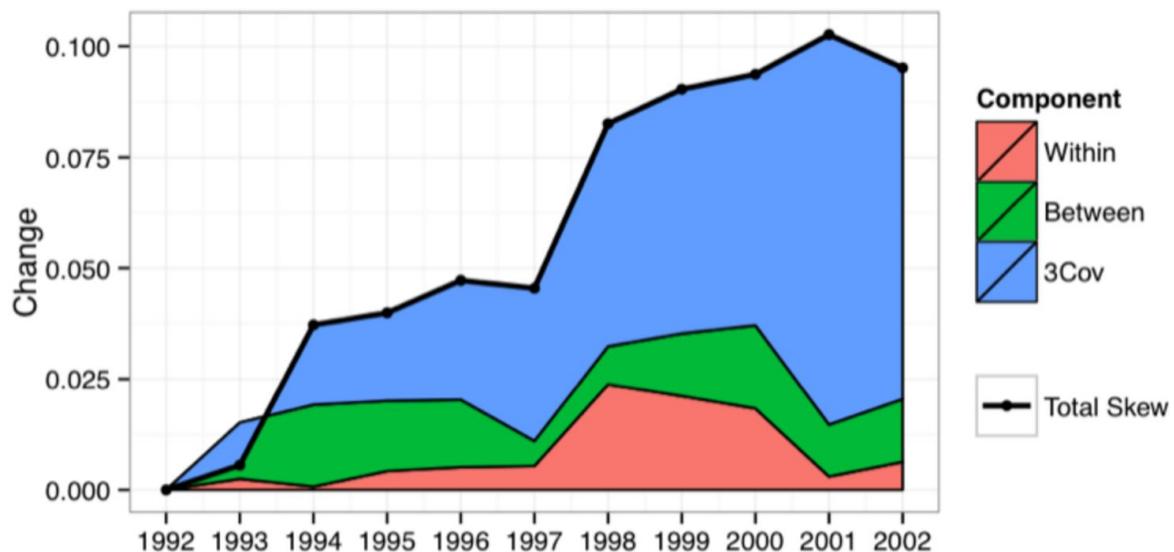## Project #2: Revisiting U.S. Wage Inequality at the Bottom 50%

Key Contribution: R-package to implement the main statistical method that will be available for download. Code arrangement for replication.

Status: Package submitted to CRAN and will be published in February 2021. Paper will be submitted to the American Economic Review In February-March 2021.

Project Description:

I propose a model of a skill-replacing routine-biased-technological-change (SR-RBTC) where technology substitutes the usage of skill in routine tasks. This model is consistent with the key trends in bottom-half inequality that could not be explained with RBTC models that assume technology replaces the workers themselves. I use an interactive-fixed-effect model to assess new predictions of the model: a decrease in return to skill, and a decrease in skill level at routine occupations. Since SR-RBTC violates the ignorability assumption that underlies standard decomposition methods, I introduce a "skewness decomposition" to show that SR-RBTC is the main driver of bottom-half inequality.

Key Figure:

Skewness decomposition based on occupations. Skewness increases when inequality falls at the bottom 50% and rises at the top 50%. Most of the increase is driven by the increase in correlation between occupational wage level and inequality as the model predicts.

Plan for Next Semester: finish code organization and submission of paper

Project #3: Getting Beneath the Veil of Intergenerational Mobility: Evidence from Three Cities

Key Contribution: R-package to implement the main statistical method that is available for download: https://CRAN.R-project.org/package=optinterv. Development of additional methodological features.

Status: Completed analysis

Project Description:

We develop a data driven way to design the optimal policy experiment for increasing chances of escaping poverty. We collected data from in-person surveys of almost 1,000 individuals who were reared in poverty in Memphis, Tulsa, and New Orleans, and asked about their childhood health, parental income, home environment as a child, childhood experiences, lifetime traumas, neighborhood safety, a host of psychological skills, beliefs, and current income. Using typical descriptive approaches to motivate an intervention implicitly assumes one can alter individual characteristics in any way the data deem predictive – e.g. sending youth to college to increase future income, regardless of any adverse childhood experiences – even if one rarely observes adults with adverse childhoods going to college in the data. We replace this assumption with four axioms about the cost of altering any combination of individual characteristics. Under these axioms, the optimal experiment replicates the way people escape poverty in real life. We test our method using a case where a data-driven experiment was already run, as well as simulations. We also analyze the robustness of the results if one of the axioms is violated. We find that educational attainment is the most important determinant of mobility. Yet, many other variables – traditionally ignored by economists – are almost equally important predictors: resilience, Big 5 personality skills, grit, self-esteem, the number of adults trusted, trouble with the police when young, and other adverse childhood experiences. Fathers present in own neighborhood did not matter. This suggests that income-increasing interventions for the poor need to be broader than simply human capital or place-based policies.

Plan for Next Semester: Run analysis on additional data set (NLSY). Implement the method on a separate project that studies labor force participation by Arab women.