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Essays on Labor Frictions and Macroeconomic Welfare Using Heterogeneous Agent Models

My specialties are macroeconomics and labor economics, broadly including forays into inequality, human capital theories, economics of education, business cycle fluctuations, and the causes and consequences of factor misallocation in the labor market. At the center of my research, I use calibrated heterogeneous agent models in a general equilibrium setting to address normative and positive economic questions.

My job market paper, "Endogenous Skills and Lifetime Earnings Inequality," uses an overlapping generation heterogeneous household model to study the transmission of early-life differences in human capital and family wealth to lifetime earnings inequality. This paper makes four substantive theoretical and empirical contributions. First, the model innovatively incorporates endogenous decisions in college enrollment and drop-out, which enables investigation into the impact of early life differences and college choices on lifetime earnings inequalities. Second, the model directly uses the empirical joint distribution for human capital and family wealth at age 18 as the initial condition, crucial for drawing quantitative conclusions to identify sources of lifetime inequalities and their magnifying mechanisms. This study finds that initial family wealth explains up to 15% of lifetime earnings inequalities and early-life human capital explains 72%. Third, the results provide both theoretical and quantitative evidence showing that *ex-ante*, college education serves as an insurance device for households to self-insure against future earnings fluctuations, and that *ex-post*, one may return to school for skill upgrading after severe negative shocks. Fourth, I evaluate empirically applicable programs that alter the impact of established early life conditions on lifetime earnings inequality, which previous studies cannot fulfill. Government-provided scholarships that facilitate college enrollment reduce lifetime earnings inequality, increase aggregate labor productivity, and raise aggregate consumer welfare.

My second paper, titled "Welfare under Friction and Uncertainty: General Equilibrium Evaluation of Temporary Employment," investigates the extent to which firms switch between temporary and regular contracts when there are risk and frictions. I construct a model where firms are heterogeneous facing idiosyncratic AR(1) risks every period. Firms can hire regular workers with indefinite tenure and less productive temporary workers with one year expiration. They pay a firing cost to reduce regular employment, but not so for temporary employment. The firing cost to regular contracts generates an "s-S" inefficiency band, within which firms must consider the number of existing employees when making employment adjustment, creating inefficient response to the productivity shock, i.e. misallocation. Such misallocation reduces employment, lowers output and costs household's welfare. Heightened idiosyncratic risk and allowing for temporary contracts further enlarge the inefficiency band, due to firms turning away from the regular workers to temporary workers in avoiding firing cost. Nevertheless, temporary employment serves as a buffer strategy for firms to reduce misallocation of labor and for households to prevent complete unemployment, alleviating the efficiency loss to the economy from firing cost and uncertainty.