My research is constantly evolving. The current version of this statement may be found at chaseabram.com.

My primary research fields are macroeconomics, labor, and spatial economics, with a focus on understanding firm and worker dynamics. My research agenda addresses how the distributions of worker skill and firm technology lead to welfare inequality in the macroeconomy. To that end, I develop new models of labor markets and use microdata to quantify how workers match to firms, and how this matching impacts earnings.

In one project, I start with the simple point that while it has been well-established that more productive firms employ more workers, most previous work has not considered why the *composition* of a firm's workforce should vary with firm size. In my job market paper, **Linking Firm Size and Skill Composition: Theory and Evidence from Australia**, I examine the relationship between firm size and skill composition, using microdata from Australian workers and firms between 2011 and 2019. Larger firms have more skilled workers, but as firms grow, they shift toward employing more low-skilled labor. To explain these patterns, I develop a model that distinguishes total factor productivity (TFP) from skill-biased productivity (SBP), in which firms choose their scale and workforce composition. I validate the model by analyzing the effects of a payroll tax policy change in South Australia, and find that firms responded by adjusting both their scale and skill mix. I use a quantitative model of the Australian labor market to explore the implications of shifts in aggregate skill composition on the distributions of firm size and earnings inequality. I find that an 11 percentage point increase in the educated share of the workforce causes skill premia to decrease within all firms. Despite this, the aggregate skill premium increases, because firms which employ higher shares of high-skilled workers raise the level of earnings more for all their workers. The increase in the educated share also leads to employment gains of 3% in the largest firms, and an aggregate reallocation of 1% of workers to the largest firms. The results highlight how accounting for employment composition decisions by firms is crucial for understanding observed patterns of worker skill distribution and earnings across firms.

While the above work is primarily concerned with explaining the cross-sectional distribution of differently-skilled workers in differently-sized firms, I am currently working on understanding how changes in the skill distribution will affect the dynamics of workers and firms. In the simplest extension, I allow for firms facing TFP shocks to make entry and exit decisions, and find that when the aggregate workforce becomes more skilled, high SBP firms become more likely to enter, but low SBP firms become more likely to exit. In a further extension, I integrate worker search, so that changes in the skill distribution affect the distribution of vacancies posted, and thus impact job ladder prospects for all workers. These frameworks all maintain a simple production technology which assumes low- and high-skill workers are imperfectly substitutable with a constant elasticity. To account for the hierarchical nature of firm organization empirically observed, I extend the model so that firms produce using a team of workers organized in a knowledge hierarchy, which allows me to study the dynamics of firm organization, in addition to firm scale[1].

In my other research, I address macroeconomic questions concerning inequality and the dynamics of the spatial distribution of economic activity. In **Urban development dynamics and zoning** with Jordan Rosenthal-Kay, we ask how local housing markets interact across

[1] The Australian microdata I utilize are well-suited to this endeavor, as I can observe worker occupation, a notably absent variable in the United States analogue, the LEHD.

space and time. To answer this question, we develop a tractable dynamic spatial equilibrium model with continuous space and time and computable transition dynamics. Our model features fixed housing developers that build housing subject to adjustment costs, and interact in a spatial equilibrium generated by freely mobile households. The spatial equilibrium is key, because it reduces the dimensionality of the problem: rather than solving for the price at every location at every instant (an $N \times T$ dimensional problem), we only need to solve for the common household utility at each instant (a T dimensional problem). We show numerically that following a demand shock, housing adjustment paths may be nonmonotonic, as short-run demand increases may induce some developers to overshoot their long-run housing supply. In ongoing work, we apply our model to study how zoning restrictions affect the dynamics following local housing demand shocks in San Francisco. We infer de facto zoning restrictions using bunching in the building height distribution over different zoning classifications, and use our estimates of latent zoning parameters to quantify the model.

I am also interested in inequality more broadly, and in **Mortality and Income Inequality**, I ask why the United States has higher GDP per capita than Great Britain, but lower life expectancy. I propose a theory of mortality risk depending on income, and aggregate productivity depending on population size. I derive the stationary population size, life expectancy, and income per capita in closed form. When aggregate productivity depends positively on population size, this feedback increases the equilibrium population size. As the productivity distribution becomes more dispersed, life expectancy falls and income per capita rises, and these effects are more pronounced the more convex is the mapping from income to mortality risk. Under the assumption that mortality risk is more concave in income in the United States than Great Britain, aggregate time trends in life expectancy and income inequality are in accord with the model's predictions.