Summary of the project:

Working title: Endogenous Growth with Creative Destruction by Employee Spinouts

**Short Summary:**

The project analyzes the productivity growth, welfare and policy implications of the process of employee within-industry spinout entrepreneurship. To do so, I first develop a general equilibrium model of endogenous growth with creative destruction by employee spinouts (based on the quality ladders framework in Grossman & Helpman 1991). Next, I will use micro data to find quantitative evidence on the core mechanisms of my model. I will identify spinout firms by name-matching previous employers in founder biographies in the Venture Source data set with firms in Compustat. I will assess the causal impact on spinout formation of incumbent R&D by using an IV analysis based on federal- and state-level R&D tax incentives, as in Bloom et al. 2013, “Identifying Technology Spillovers and Product Market Rivalry.” Third, I will assess the degree of competition between spinouts and parent firms by studying how parent firm variables – e.g. the stock price and sales – respond to funding of spinout firms (e.g., by VC firms).

Second, I will calibrate, validate and analyze the growth/welfare and optimal policy implications of this model. The calibration will involve some aggregate moments (e.g., profit / sales ratio, average R&D intensity, labor productivity growth, fraction of patents which are ), some parameters from the literature (R&D elasticities, subject to robustness analyses) as well as some parameters informed by the microeconomic estimates in the previous part (learning rate, degree of competition). The model will predict how spinout entry and R&D expenditures vary depending on non-compete enforceability; I will compare these predictions to the variation in the data by non-compete enforceability to validate my model. Finally I will analyze the growth and welfare implications of various policies such as restricting non-compete enforceability, restricting spinout formation more generally, and varying R&D subsidies.

**Longer Summary:**

The project analyzes the growth and welfare implications of the process of employee entrepreneurship into competing spinouts, with an application to the effects of non-compete enforceability. First, I develop a general equilibrium model of endogenous growth with creative destruction by employee spinouts (based on the quality ladders framework in Grossman & Helpman 1991). R&D workers hired by incumbent firms can learn on the job how to attempt to improve the incumbent’s product, potentially stealing their monopoly. The central tension is that encouraging the implementation of more innovative ideas by spinouts can create a disincentive for firms to conduct their own R&D. This can reduce or improve welfare, depending on the parametrization of the model.

Second is the empirical component, which consists of three parts. First, I will identify spinout firms by name-matching founder biographies in the Venture Source data set with Compustat. Second, I will assess the causal impact on spinout formation of incumbent R&D by using an IV analysis based on federal- and state-level R&D tax incentives, as in Bloom et al. 2013, “Identifying Technology Spillovers and Product Market Rivalry.” Third, I will assess the degree of competition between spinouts and parent firms by studying how parent firm variables – e.g. the stock price and sales – respond to funding of spinout firms (e.g., by VC firms).

The last component is to calibrate and analyze the implications of the model. The calibration will involve some aggregate moments (e.g., profit / sales ratio, average R&D intensity, labor productivity growth, fraction of patents which are ), some parameters from the literature (subject to robustness analyses) as well as parameters informed by the microeconomic estimates in the previous part. The model will predict how spinout entry and R&D expenditures vary depending on non-compete enforceability; I will compare these predictions to the variation in the data by non-compete enforceability to validate my model. Then I will analyze the growth and welfare implications of various policies such as restricting non-compete enforceability, restricting spinout formation more generally, and varying R&D subsidies.