Research Statement

Fidia Farah

My research interests are in the fields of Macroeconomics and Monetary Economics, Human Capital and Labor Economics, and Applied Time Series Econometrics. In my dissertation, I look at two issues: (i) why standard real business cycle models are unable to generate quantitatively realistic expectation-driven aggregate fluctuations, (ii) how individual ability, the intergenerational persistence of productivity and wage polarization in labor market influence agents’ choice of the human capital portfolio. I have several research projects along these lines. Below summarizes my current research projects.

Investment brings change: Implications for news-driven business cycles (with William Blankenau)

Purchasing investment goods does not directly increase the productive capacity of the firm. Changes in the firm through the installation of capital, worker training, and workplace reorganization are often required. These changes themselves are not easily automated. Change requires workers. My job market paper investigates this issue by looking at how firms’ investment decisions are influenced by the news about future technological innovations and its connection to changes in workplace organization and the subsequent demand for labor inputs. We build a model where investment requires a complementary labor input. This mechanism is embedded in a real business cycle model with capacity utilization, adjustment costs, and separable preferences. We show that this environment can yield positive comovement between consumption, investment and labor hours when the economy experiences a news shock regarding future productivity. As such we provide an additional channel through which news shocks can generate key business cycle features.

Wage polarization, intergenerational persistence of ability and human capital accumulation (with William Blankenau)

We build an overlapping generations model where a fall in the price of equipment capital can cause a decrease in the share of the population earning a college degree. This is consistent with a slowing growth rate of college educated workers despite high returns to education. Agents are heterogeneous, and each agent is born with a portfolio of skills. Specifically, each has a separate ability to provide manual labor, routine labor, and abstract labor and must decide how much of each to provide. An agent can increase her supply of routine labor and abstract labor by attending college. Those with relative aptitudes in these areas are most likely to attend college. All three types of labor are valued in the labor market at an endogenously determined wage rate. Equipment capital is a substitute for routine labor. As its price falls and its quantity increases, agents with a relative aptitude for routine labor no longer find it advantageous to attend college. We consider the effects of education policy designed to increase enrollment under these circumstances. Since middle income agents are harmed by routinization of tasks, the model has implications for observed wage polarization.

Indeterminacy and increasing returns to scale with implementation labor

This project is an extension of the first project. I first show that a real business cycle model with implementation labor can exhibit increasing returns to scale. Increasing returns to scale cause the model to be indeterminate under some parametrizations. In this case, business cycle fluctuations can be caused by self-fulfilling beliefs. In other cases, news shocks can yield business cycles behavior based on a unique self-belief about future fundamentals. Since the root cause of business cycles is distinct in the two cases, it
is important to understand situations where indeterminacy can arise. In this paper, I identify parameters values which leads to potential indeterminacy in a special case of the model introduced in the first paper and with the extended models of different preferences.

**Does news about IT innovations produce comovements in macroeconomic aggregates? (with Iqbal Ahmed)**

This paper empirically investigates the role of news about the future innovation of information technology (IT) on macroeconomic activities. We employ the maximum forecast error variance approach to identify the IT news shocks from the price data of IT equipment. We provide robust evidence that news shocks about future IT innovations constitute a comovement in the key macroeconomic aggregates. That is, on impact output, labor hours, consumption and investment in both IT and non-IT sectors rise. Our findings are consistent with the expectation-driven business cycle literature. Further, the forecast error variance shows that news shocks about future IT significantly contributes to business cycle fluctuations. Also, the increase in output and countercyclical movements in the interest rate spread suggest that financial markets play a role in the propagation of IT news shocks.