My research, broadly speaking, has theoretically investigated the dynamic impact of governmental policy intervention on the economy. The research, as is common among economists investigating these issues, is conducted within the context of mathematical models that are stylized abstractions of real world economies. The models I have worked with satisfy a set of exacting criteria. First, they are in the general-equilibrium tradition (activity in one market must be allowed to affect activity in other markets, and vice versa). Second, the institutions being studied are modeled carefully and from scratch, i.e., they are not simply assumed to exist. Finally, the models help the researcher explain some real world observations better than existing, competing models. I work in the fields of Macroeconomics and Dynamic Public Economics. Much of my work studies the macroeconomic consequences of public policies in different contexts — in the labor market, in environment, and in education. My research includes both theoretical and empirical work.

**Social security** Most countries that offer some sort of public pension finance these intergenerational transfers on a pay-as-you-go basis. Nevertheless, the rationale for such a system of social security continues to be hotly debated. In my job market paper, “Endogenous Retirement and Pay-as-you-go Pensions”, I present an overlapping-generations model with endogenous retirement to study the effects of PAYG pensions on the capital-labor ratio and welfare in a dynamically efficient economy. In such an environment, I show theoretically and confirm with numerics that it is possible for the PAYG pension system to be neutral. It may even be desirable in a long-run welfare sense. These results are in sharp contrast with existing, well-known results. The model allows for the possibility that in the laissez faire equilibrium, private agents work too much or accumulate too much capital, relative to what a planner would want them to. In future work, I wish to study the issue of optimal social security in such a framework.

**Environmental policy** Suppose a government has a target level of environmental quality in mind and embarks on a program to abate pollution via publicly-funded mitigation investments. Also suppose improvements in environmental quality yield positive externalities. Clearly, in such a setting, there are long-run gains from policy intervention but, possibly, initial generations may have to suffer to bring these welfare gains online. In “Environmental Quality and Intergenerational Distribution” (with Torben Andersen and Joydeep Bhattacharya), we develop a framework that integrates environmental concerns
into an overlapping-generations model to study the welfare effects of public mitigation policies on different generations in a small open economy. The cost of the pollution abatement is financed by income taxes and public borrowing in international capital markets. We ask, can such a policy ever be implemented under the Pareto Criterion (meaning no generation is hurt in the transition) and make sure the path of debt does not explode. We find this is indeed possible. This work is in its preliminary stages.

**Life expectancy and schooling** In a short note "Life Expectancy, Schooling and Lifetime Labor Supply: Ben-Porath Mechanism Revisited", I revisit the Ben-Porath Mechanism within the framework of Hansen and Lønstrup (2012) and characterize the exact conditions under which can the model deliver predictions that are consistent with the empirical findings in Hazan’s (2009) article in *Econometrica*. In “Life Expectancy, Social Security and Educational Attainment — An Empirical Analysis”, I plan to use panel data to analyze the effects of changes in life expectancy on educational choices in the presence of social security.