

## Research Statement

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My work seeks to advance two core research agendas. The first addresses one of the longest-standing questions in economics: “Why are some countries so much poorer than others?” The second is to understand how the enormous heterogeneity observed at the micro level, and in particular the large disparities in income and wealth, impact the macro economy and macroeconomic policy.

**Cross-Country Income Differences.** One of the main conclusions of existing work is that the vast income differences between rich and poor countries cannot be fully explained by differences in observable factors of production, such as the size of a country’s capital stock or the education of its labor force. Instead, we need to understand cross-country differences in aggregate productivity, broadly defined. My work pursues three lines of attack to understand the root causes of such productivity differences.

First, low aggregate productivity in poor countries may be due to an inefficient allocation of resources within these countries. In “Productivity Losses from Financial Frictions: Can Self-Financing Undo Capital Misallocation” ([1]) I examine how much resource misallocation arises due to poorly functioning credit markets in developing countries. To this end, I develop a highly tractable general equilibrium model in which heterogeneous producers face collateral constraints. I show that a key parameter determining the aggregate effects of financial frictions is the persistence of idiosyncratic productivity shocks hitting producers, with higher persistence leading to smaller steady-state productivity losses but slower transition dynamics. This line of research is further developed in [2]-[5].

Second, although a long tradition in growth and development economics considers human capital as a driver of cross-country income differences, most studies focus on human capital acquired through schooling and find that it plays a relatively small role. “Life-Cycle Wage Growth Across Countries” ([6]) documents a fact that suggests that human capital may nevertheless be important: experience-wage profiles are on average twice as steep in rich countries as in poor countries, consistent with workers in poor countries accumulating less human capital over the life cycle. In [7] we document an analogous fact for new U.S. immigrants, lending further support to the human capital hypothesis. Alternatively, this finding may reflect more severe search frictions preventing workers from climbing the job ladder. This may in turn hamper reallocation and lower aggregate productivity, as in the work on misallocation discussed above.

Third, productivity in poor countries is likely shaped by knowledge diffusion, that is, the speed with which existing technologies spread both from rich to poor countries and within poor countries. “Knowledge Growth and the Allocation of Time” ([8]) develops this line of inquiry and builds a theory in which ideas are transmitted from one person to another, capturing the intuition that idea diffusion is akin to the spread of an infectious disease.

**Heterogeneity in Macroeconomics.** One of the key developments in macroeconomics research over the last two decades has been the incorporation of explicit heterogeneity into models of the macroeconomy. My current and planned work seeks to contribute to this exciting development, focusing in particular on the role of income and wealth distribution in macroeconomics.

A natural first question is what generates the large inequalities along these dimensions. “The Dynamics of Inequality” ([9]) studies the causes of the rise in top income and wealth inequality in the U.S. over the past forty years. We show that the most widely used theories of the observed fat tails of these distributions cannot explain the fast rise in top inequality, but that theories involving “superstar” phenomena can.

My next goal is to understand the implications of these disparities for macroeconomic policy. There is by now widespread recognition that the effects of fiscal policy are critically dependent on the distribution of marginal propensities to consume (MPCs). “Monetary Policy According to HANK” ([10]) shows that MPC heterogeneity is also critical for the monetary policy transmission mechanism. In standard representative agent models, the transmission mechanism is based almost entirely on intertemporal substitution. In contrast, in our Heterogeneous Agent New Keynesian (HANK) model with assets with different degrees of liquidity and realistic MPC heterogeneity, this channel is miniscule. Monetary policy nevertheless has sizeable real effects due to the presence of high MPC households. In related work in progress ([11]), we use Norwegian administrative panel data on income and wealth to examine heterogeneity in MPCs as well as consumption and saving rates across the wealth distribution, both at the bottom and the very top. Given this evidence on the prevalence of such non-linearities, we then revisit the old question to what extent inequality affects aggregate consumption and saving.

A unifying thread in all of my research is that I try to develop better methods for thinking about heterogeneity in macroeconomics. This theme goes back to my dissertation and [12]. “Income and Wealth Distribution in Macroeconomics: A Continuous-Time Approach” ([13]) shows that, when recast in continuous time, incomplete-market models can be conveniently solved as systems of partial differential equations. This approach allows for both a tighter theoretical characterization and more efficient computations than traditional discrete-time methods. The model with two assets and kinked adjustment costs developed in “Monetary Policy According to HANK” provides an illustration of the usefulness of these methods. In “When Inequality Matters for Macro and Macro Matters for Inequality” ([14]) we further extend this methodology to handle aggregate uncertainty and develop a computational toolbox for numerically solving such models.

## Reference List

1. Productivity Losses from Financial Frictions: Can Self-Financing Undo Capital Misallocation? *American Economic Review*, 2014
2. Why Does Misallocation Persist? *American Economic Journal: Macroeconomics*, 2010, with Abhijit Banerjee
3. Economic Development, Flow of Funds and the Equilibrium Interaction of Financial Frictions, *Proceedings of the National Academy of Sciences*, 2017, with Robert M. Townsend and Victor Zhorin
4. Well-Intended Policies, *Review of Economic Dynamics*, 2013, with Francisco J. Buera and Yongseok Shin
5. Optimal Development Policies with Financial Frictions, *Working Paper*, 2015, with Oleg Itskhoki
6. Life-Cycle Wage Growth Across Countries, *Journal of Political Economy*, forthcoming, with David Lagakos, Tommaso Porzio, Nancy Qian and Todd Schoellman
7. Life-Cycle Human Capital Accumulation Across Countries: Evidence from U.S. Immigrants, *Journal of Human Capital*, forthcoming, with David Lagakos, Tommaso Porzio, Nancy Qian and Todd Schoellman
8. Knowledge Growth and the Allocation of Time, *Journal of Political Economy*, 2014, with Robert E. Lucas, Jr.
9. The Dynamics of Inequality, *Econometrica*, 2016, with Xavier Gabaix, Jean-Michel Lasry and Pierre-Louis Lions
10. Monetary Policy According to HANK, *American Economic Review*, forthcoming, with Greg Kaplan and Gianluca Violante
11. Saving Behavior across the Wealth Distribution: Evidence from Norway, *Work in Progress*, 2017, with Andreas Fagereng, Martin Holm and Gisle Natvik
12. Aggregate Implications of a Credit Crunch: The Importance of Heterogeneity, *American Economic Journal: Macroeconomics*, 2015
13. Income and Wealth Distribution in Macroeconomics: A Continuous-Time Approach, *Working Paper*, 2017, with Yves Achdou, Jiequn Han, Jean-Michel Lasry and Pierre-Louis Lions
14. When Inequality Matters for Macro and Macro Matters for Inequality, *NBER Macroeconomics Annual*, forthcoming, with SeHyoun Ahn, Greg Kaplan, Thomas Winberry and Christian Wolf