Essays on Structural Models and Big Data in Consumer Finance
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1 Housing, Debt, and the Marginal Propensity to Consume (job market paper)
with Andreas Fagereng and Gisle Natvik
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We analyze how housing and mortgage debt affect households’ marginal propensity to consume out of wealth. Using detailed Norwegian registry data, we document that after controlling for wealth, households with higher leverage respond more to wealth changes. Hence, for the purpose of understanding household consumption dynamics, total wealth is an insufficient statistic to summarize household balance sheets. We therefore develop a structural model that can account for mortgage debt over the life cycle and its relation to consumption choice. In our model, households hold debt, financial assets and illiquid housing. The marginal propensity to consume out of wealth is declining, as in a standard single-asset consumption model, but not monotonically: households who have recently bought houses have high leverage and high marginal propensity to consume. Our estimated model successfully targets the life cycle profiles of household balance sheets in the micro data. As a test of external validity, we show that regressions from data simulated by the model give results consistent with regressions on the actual registry data. Our findings corroborate the view that household indebtedness and leverage matter for consumption dynamics, that a substantial fraction of households are likely to behave in a hand-to-mouth fashion even though their wealth is high, and that the housing market is key to these phenomena.

2 Progressive Taxation and Precautionary Saving Over the Life Cycle
with Davud Rostam-Afschar

We study the effect of taxes and transfers on precautionary saving over the life cycle. Using data from the German Socio-Economic Panel, we estimate idiosyncratic labor income risks and structural parameters of an incomplete-markets model for heterogeneous groups. Our simulated model shows that progressive taxation, compared to a revenue-neutral flat taxation, reduces savings by 24.6% for a household with median wealth on average over the life cycle. Despite crowding out part of savings, households are better insured against income shocks under progressive taxation. 60% of permanent shocks and 30% of transitory shocks to pre-government labor income are insured against under progressive taxation. Welfare gains are sizable on average with progressive taxation but have considerable heterogeneity among different subgroups.

3 The Human Factor: China’s Internal Migration and the Saving Puzzle
with Hou Wang and Yi David Wang

We introduce a theoretical framework that aims to capture human-migration policy choices in an otherwise standard model. Highlighting a tradeoff between growth and stability on the part of the government, we show that migration policies not only have a profound impact on China’s labor market conditions, but also have the potential to explain many China-specific phenomena such as its rising saving rate, persistent and increasing wage gap, and seemingly constant rate of urbanization that are contrary to the implications of traditional macroeconomic models.