

My research interest spans topics in macroeconomics and household finance with a focus on the economic well-being of households. The core theme of my research agenda is to examine the redistributive effects of mitigating financial and knowledge barriers that economic agents face. In my works, I integrate empirical motivation from micro data—heterogeneity in household financial conditions and sophistication—with quantitative macroeconomic frameworks. My structural analyses examine the aggregate and redistributive implications of households' limited capacity to make sound economic decisions. My studies further inform the vital policy discussions on achieving financial education parity and bridging the wealth gap.

My job market paper, *“Financial Literacy, Portfolio Choice, and Wealth Inequality: A General Equilibrium Approach”* (Draft [Here](#)) analyzes to what extent policies subsidizing households' financial literacy can augment aggregate capital and mitigate wealth inequality. This paper contributes to the literature at the intersection of macroeconomics and household finance by incorporating household portfolio choices and financial literacy accumulation into a heterogeneous-agent incomplete market model. The model posits that households' accumulation of financial literacy raises their risk-adjusted returns. Disciplined to match financial literacy and stock market participation rate of U.S. households in the Survey of Consumer Finances (SCF), the model features the competing aggregate implications of financial literacy subsidies: on one hand, making financial literacy more affordable increases stock demand, while on the other hand, greater capital investment reduces the rental rate of capital, in turn lowering equity premium on average. Nevertheless, the policy interventions mitigate wealth inequality by generating heterogeneous portfolio rebalancing: the wealthiest group shifts toward bonds to compensate for lower stock returns, while the middle wealth group accumulates more financial literacy and increases stock holding. In what follows, I elaborate on the framework, quantitative analyses, and future avenue of my job market paper.

Framework: In my general equilibrium model, households allocate their wealth into safe and risky assets (“bonds” and “stocks”), and they select their level of investment in financial literacy. By accumulating financial literacy, households can increase their risk-adjusted stock returns. The household choices are constrained by a stock market participation cost, a financial literacy investment cost, and depreciation of financial literacy over time. The government issues a risk-free bond and a representative firm rents capital competitively. In equilibrium, productive capital is supplied by households' stock investments, and the aggregate capital income is distributed across households according to their financial literacy levels. The equilibrium effects of raising financial literacy are twofold: first, it increases aggregate capital and hence lowers marginal product of capital; and second, it decreases the equilibrium stock market *participation* premium, or the expected stock return for stock investors with minimum financial literacy. These equilibrium channels reduce the equity premium, which has an overall effect on wealth inequality.

Quantitative and policy analyses: I calibrate the model to match financial literacy and stock market participation rate of U.S. households, taking key data moments from the Survey of Consumer Finances (SCF). Recent waves of the Survey provide a measure of financial literacy, determined by survey respondents' understanding of fundamental economic concepts (namely, inflation, interest rates, and risk diversifica-

tion).<sup>1</sup> The paper then considers the impact of a policy intervention that subsidizes 75 percent of the household's financial literacy investment cost, financed by a tax on capital income. The model predicts that the subsidy is likely to boost average financial literacy by 10.1 percent, while increasing the aggregate participation rate only by 0.2 percentage point. This small policy effect arises from downward pressures on the average equity premium due to: (1) an increase in aggregate capital followed by the decline in capital input price, and (2) an increase in the capital income tax rate. Calculating the policy effects without accounting for either channel (i.e., using a partial equilibrium model) leads to a predicted 1.9 percentage point increase in the participation rate, whereas accounting only for the price adjustment channel generates a 0.8 percentage points increase.

I further show that the financial literacy subsidy has heterogeneous effects on equity premia and portfolio choices of different wealth groups. The middle wealth quartiles, accumulate more financial literacy and raise their risky portfolio share by 1.8 percent. The top quartile attains its maximum literacy level prior to the subsidy and decreases their risky share by 0.7 percent to compensate for lower equity premium. The bottom quartile remains out of the stock market due to participation costs and still does not acquire literacy even when it is subsidized. As a result, wealth inequality, measured as a ratio of total wealth held by the top quartile versus the rest of the population, decreases by 1.9 percent. In alternative policy experiments, I find that subsidizing both stock market participation and financial literacy investment for the younger population can substantially promote the overall stock market participation.

Future works: I plan to further develop a project which examines the normative facets of financial literacy by characterizing a constrained-efficient allocation of household wealth and literacy. This project aims to compare the effect of financial literacy on capital allocation and TFP growth ("productivity externality") to its negative "pecuniary externality" on the equity premium. The role of financial literacy can be further linked to various other factors contributing to the sustainability of household balance sheets and their economic well-being, such as student loans, mortgage choices, and pension savings.

I am also interested in the aggregate ramifications of liquidity constraints, another factor making it difficult for households to smooth consumption. In a paper underway, "*Financial Constraints and Sources of Liquidity: Micro and Macro Implications*," (with Sara Casella and Agustin Diaz), we use a novel empirical approach to identify hand-to-mouth households using a micro-level survey in Chile, Encuesta de Protección Social (EPS), and the U.S. Survey of Consumer Finances (SCF). We exploit the survey questionnaire to characterize various sources of potential emergency funding that households can utilize when confronted with negative income shocks. The reported sources include accessing debt markets, insurance markets, defaulting on payments, and borrowing from family and friends. We find that the primary source of borrowing for 80% of households with low liquid assets is family and friends, while only 25% of households with high liquid assets resort to that channel. We use the Chilean household survey with administrative labor income consumption history. This allows us to analyze variation in marginal propensity to consume across households with different levels of liquidity and emergency funding sources. We study how the existence of such alternative insurance channels interacts with household decisions to hold liquid assets and their impact on macro policies which stabilize aggregate output.

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<sup>1</sup> Data from the 2016-2019 SCF shows that only 44.2% of the U.S. households between age 26 and 80 can answer all three financial literacy questions, which is less than the aggregate stock market participation rate, 54.1%.