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Research Statement

I am a macroeconomist with special interests in areas of household finance, labour and international economics. Methodologically, my work combines careful empirical analysis with quantitative macroeconomic models disciplined using micro-data. I use these models to highlight the main economic forces at play and conduct relevant policy counterfactuals. Thematically, my work aims to advance two research agendas. The first is to understand the aggregate implications of microeconomic heterogeneity. The second focuses on investigating the sources of cross-country differences in economic growth in long- and short-run. My current and planned work in these two research agendas is discussed in detail below.

Micro Heterogeneity in Macroeconomics: An exciting evolution in macroeconomics research has been the recent development of macro models which incorporate the distribution of micro variables like earnings and wealth. This unifying approach helps to uncover key insights in the interaction between micro inequality and the macroeconomy, and the distributional implications of macroeconomic policies or shocks.

There is widespread acceptance in the macroeconomics literature that the effect of fiscal and monetary policies depends on the household marginal propensity to consume. But, there is little understanding of how such individual-level elasticities themselves can change with the macroeconomic conditions. In my job market titled "Insurance Cyclicality", I investigate whether the degree and channels of consumption smoothing differs between recessions and expansions for households given that idiosyncratic wage uncertainty rises during recessions. I apply a GMM framework on US panel data (Panel Study of Income Dynamics) to answer this question empirically and exploit the cross-sectional and business cycle variation in hours worked, wages, and consumption. I find that the degree of consumption smoothing to temporary or permanent shocks is not dependent on the aggregate state. But, the role of labour supply adjustments to permanent shocks gains prominence and the contribution of net assets falls during bad times. Households with low liquid wealth exhibit the strongest change in response between recessions and expansions. I explain these facts jointly using a quantitative incomplete market life-cycle model with multiple asset-types (liquid and illiquid). The model shows that the portfolio reallocation towards liquid assets as wage uncertainty rises is the key mechanism.

A question troubling policymakers during the early days of the Covid-19 pandemic was the effect of switching to work-from-home on the macroeconomy and Covid-19 infection dynamics. In "Pandemic Through the Lens of Occupations" with Michael B. Devereux and Amartya Lahiri (**published** in the *Canadian Journal of Economics*), we investigate this question in a model with a two-way interaction between infection risk and the macroeconomy. Aggregate output is the outcome of labour effort of different occupations but the risk of infection at the workplace differs across occupations. We show that the endogenous choice to self-insure creates a tradeoff between public health and macroeconomic outcomes: it reduces the aggregate peak infection rate substantially but consumption losses are exacerbated, even without policy mandated lockdowns. Our framework helps to establish the importance of occupational heterogeneity. Variation in ex-ante infection risk across occupations does not matter for aggregate outcomes. But the model shows widening consumption inequality as occupations that are harder to perform from home witness higher infection rates and bigger consumption losses.

A natural question that arises while studying inequality is what drives differences in wealth holdings across individuals. It is well documented that married households have more net worth and a higher equity share in wealth than singles. Furthermore, single males hold more risky assets and have higher wealth holdings than single females. In the working paper, "Gender, Marriage, and Portfolio Choice: Role of Income Risk" co-authored with Pubali Chakraborty, we quantitatively examine the sources of portfolio differences across households' gender and marital status and subsequent impact on wealth holdings. We use a incomplete markets life-cycle model to uncover the role of higher idiosyncratic income risk for females and spousal insurance in generating portfolio asymmetry among groups varying by marital status and gender.

While the above project helps to explain wealth differences across marital groups, in planned work with Michael B. Devereux and Amartya Lahiri, we aim to explain how such differences can have aggregate implications for the transmission of monetary policy. We document using the Consumer Expenditure Survey data that the response in consumption of singles and couples to a monetary policy shock is quite different. This project has two goals: (i) explaining the reasons behind the asymmetric monetary policy responses, and (ii) the ensuing implications for the pass-through of monetary policy shocks on the macroeconomy over time given the falling marriage rates in the US for the past few decades.

Cross-Country Differences and Implications for Policy: Existing research has established productivity differences and financial frictions as key drivers of cross-country growth and business cycle differences. My projects in this exciting field are summarized below.

I argue in the working paper "Financial Access and Consumption Smoothing" that the role of policy to stabilize aggregate consumption can differ sharply depending on the underlying frictions in an emerging economy. I show empirically and through a small-open economy model that improving financial access in emerging economies can lead to higher consumption volatility due to the permanent-growth in technological shocks which they experience. Thus, this paper provides support to the view that stabilization policies of removing financial barriers may have a limited role when consumption dynamics are driven by people behaving as per Friedman's permanent-income hypothesis.

The above project takes productivity differences across countries as given and discusses the subsequent implications for aggregate consumption. In planned work with Pubali Chakraborty and Lalit Contractor, we want to examine the role of minimum support prices to crops and input subsidies (eg. fertilizer, power, water) for agricultural productivity. Agriculture sector is the biggest employer in low- and middle-income countries and so, contemporaneous research has highlighted how cross-country income differences are created through productivity variation in agriculture. We develop a dynamic quantitative model of occupational choice calibrated to the Indian economy to study how support prices and input subsidies distort occupation choices leading to sectoral misallocation of talent and low agricultural productivity.

I plan to advance these research agendas as I believe their importance will continue to grow. "Big Data" is helping in constructing granular statistics (eg. inequality, long-run mobility and income risk) across time, space and groups of individuals or firms. Incorporating this heterogeneity in macroeconomic models will further improve both the understanding of short- and long-run macroeconomics and the design of fiscal and monetary policies.