

DISSERTATION DEFENSE

Atanu (Rick) Paul

“Essays in Asset Pricing”

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In the first chapter, I build a New Keynesian asset pricing model with optimal monetary policy and Epstein-Zin preferences that accounts for some of the stylized facts concerning the term structures of equity and bond risk premia. The model-implied term structure of equity risk premia and its volatility are downward sloping, the term structure of bond risk premia is upward sloping, and the term structure of Sharpe ratios on dividend strips is downward sloping. Under Epstein-Zin preferences, the central bank amplifies short- and long-run productivity shocks to maximize surprise utility in an optimal monetary policy setting by making the output gap procyclical with respect to these shocks. The output gap gradually falls after a positive short- or long-run productivity shock so short-horizon output and dividends are more procyclical than medium-horizon output and dividends. Under the optimal monetary policy, the weight on the difference between inflation and its target in the loss function is large so inflation closely tracks the inflation target, which is persistent and responds negatively to long-run productivity shocks. This makes long-horizon price levels more countercyclical than short-horizon price levels with respect to the long-run productivity shock.

In the second chapter, I propose a model of sovereign credit risk within a monetary union and quantify the costs associated with entering such a union. The monetary authority sets the inflation rate for the monetary union to maximize an objective function consisting of the sum of the total values of each sovereign, while being constrained to keep the volatility of inflation low. Countercyclical monetary policy reduces the real value of debt in bad times through a higher inflation rate and increases it in good times through a lower inflation rate, allowing sovereigns a mechanism to hedge their nominal liabilities. The effectiveness of this mechanism is reduced in a monetary union as there is a single inflation rate for the entire union, and shocks to the real asset value of each sovereign are imperfectly correlated. Using data from the Eurozone, the calibration exercise determines the portion of credit spreads due to the loss of flexibility in monetary policy associated with joining a monetary union. Additionally, the model generates economically significant increases in credit spreads and Arrow-Debreu prices of default for most countries and reductions in welfare for all countries in a monetary union when compared with the counterfactual of each sovereign conducting its own independent monetary policy.

In the third chapter, I present a heterogeneous-agent incomplete markets asset pricing model that accounts for many of the features of the nominal term structure of interest rates. There is a single state variable, termed household risk, that drives the conditional cross-sectional moments of household consumption growth and generates a countercyclical time-varying price of risk. Yields on nominal and real bonds are obtained in closed form and are affine in the state variable. Real yields are procyclical, nominal yields are countercyclical, the real term structure is downward

sloping, and the nominal term structure is upward sloping. When calibrated to moments of consumption and dividend growth, the risk-free rate, market return, price-dividend ratio, and inflation, the model is able to produce realistic means and volatilities for nominal bond yields. The model is also able to account for the negative skewness and excess kurtosis of nominal bond yield changes and the failure of the expectations hypothesis with coefficients very similar to those in the data.