

DISSERTATION PROPOSAL

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“Essays on asset pricing in sovereign debt markets”

Monday, December 9, 2019

1:00 pm

Tepper Quad 4243

My dissertation has three chapters exploring the relationship between institutional design and asset pricing in sovereign debt markets. In the first chapter, I investigate the effects of unconventional monetary policy on interest rates. In the second and third chapters, I study the linkages between primary and secondary debt markets, with a special focus on the role primary dealers play in connecting both markets.

Since the financial crisis, Central Banks have expanded their monetary policy toolkit with instruments like forward guidance to influence market estimates about the future path of interest rates. However, disagreement about future interest rates of different maturities remains a pervasive feature across market participants and professional forecasters. In this context, some pundits have argued that Central Banks' communication policies have been at times a source of confusion for market participants. In the first chapter of my dissertation, I analyze formally this argument by building a model with two key ingredients: heterogeneous investors who hold different views on the unobservable process that drives interest rates, and a public signal that provides investors with an additional source of partial information about this process. Thus, the signal has the ability to guide investors' estimates and to potentially reduce their beliefs spread. First, I show that higher disagreement among investors leads unambiguously to more volatile interest rates. Then, I identify a tradeoff in terms of volatility determined by the magnitude of investors' reaction to the signal and its quality, namely, how much supplementary information can be extracted from the signal. I find that the volatility gains or losses are a function of the investors' relative confidence about their estimates, the quality of the signal, and investors' relative weight in the economy. Importantly, I show that the positive (negative) effects of the signal on interest rates volatility are amplified (mitigated) when disagreement is higher.

The second chapter is a joint project with Pietro Bonaldi and Mauricio Villamizar. We investigate the impact of private information on the price formation of government debt securities. Previous theoretical and empirical work on auctions of government securities adopted a common values framework, namely, one where bidders have private information about the post-auction value of the security. Recently, some authors have tested and rejected the common values assumption in specific debt markets in favor of one with private values, where the role of private information is negligible. We contribute to this debate by providing direct empirical evidence on the relative importance of private information in government debt auctions by exploiting an arguably exogenous demand shock with a large impact on the Colombian debt market. Using a dataset with comprehensive primary dealer-customers transactions, we construct privately-observed measures of dealer-customers' order-flow that we link to bids from a complete dataset of government debt auctions. Our results indicate that the demand shock changed significantly bidders' strategies and the relative importance of private information. Before the shock, primary dealers bid more aggressively when their own order-flow was larger—a result consistent with common values. However, this effect becomes insignificant after the shock, which corresponds more closely to a private values environment. We discuss potential explanations for this result.

In the third chapter, I study how primary dealers adjust prices and manage their positions in secondary debt markets in the face of anticipated and repeated supply shocks. Using data from the inter-dealer debt market in Colombia around dates with government auctions, I document a series of intraday patterns: before the auction opens, bonds to be auctioned off are traded less frequently, exhibit rising yields and become less liquid. These effects are larger when all bids have been submitted, but they gradually subside as the auctions' results are revealed and more trading takes place. In stark contrast, the non-auctioned bonds exhibit opposite patterns, albeit similar in duration: they are traded more frequently, have falling yields and are more liquid. Two economic mechanisms that might elucidate the results are explored: adverse selection and inventory risk. I find empirical evidence supporting both channels. I aim to construct a model that can jointly rationalize and explain these asymmetrical findings. Understanding the economic mechanisms behind the documented patterns is a relevant research program given the large similarities in the institutional design of most sovereign debt markets and, especially, their reliance on the so-called primary dealers' system around which most debt markets are organized.