Essays in Financial Economics

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Mariana Khapko





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To my parents, Liusia and Roman.

Foreword

This volume is the result of a research project carried out at the Department of Finance at the Stockholm School of Economics (SSE).

This volume is submitted as a doctor's thesis at SSE. In keeping with the policies of SSE, the author has been entirely free to conduct and present his research in the manner of his choosing as an expression of his own ideas.

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> Lake Louise, September, 2015 Mariana Khapko

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Introduction

This dissertation consists of three independent self-contained research papers written during my doctoral studies at the Department of Finance at the Stockholm School of Economics. The first two papers share a common theme of studying how economic agents make choices under risk and over time and how, once aggregated, these choices affect prices of financial assets in equilibrium. In contrast to the first two papers that focus on financial markets, the third paper studies the incentives of firms to pursue projects in the real sector of economy.

The first paper, "Asset Pricing with Dynamic Inconsistency", is a theoretical work that relaxes the traditional neoclassical assumption of time consistent preferences. With a dynamically inconsistent utility an investor today and the same investor tomorrow have different preferences. I take a game theoretic approach to individual consumption and portfolio choices and examine the impact of dynamically inconsistent time and risk preferences on asset prices. The framework and results developed in the paper accommodates, but is not limited to, models with non-exponential discounting, models with horizon dependent risk aversion, models with state dependence in time and risk preferences. The main result of the paper is an explicit characterization of the equilibrium within a general setting, including the state price density, market price of risk, the interest rate, the return volatility and the equity premium. I illustrate the results derived for the general model in a number of concrete applications.

The second paper, "Heterogeneous Agents, Jump Risk, and Asset Prices", investigates how various aspects of investor heterogeneity feed into prices. The main objective of this paper is to generalize and extend the existing studies on asset pricing implications of investor heterogeneity in a number of dimensions. First, the paper considers a fairly general specification of investor preferences that allows for a study of investor heterogeneity along different dimensions within one setting. Secondly, information in the economy under study

is driven by a marked point process, as well as a (multidimensional) Brownian motion, thus accommodating rare events that are becoming increasingly important in the modeling of financial markets. The paper presents a characterization of financial markets in this general setting, as well as more explicit results in the form of concrete examples. The main focus is the implications of rare disasters and investor heterogeneity on the market prices of risk and the risk free rate.

The third paper, "*Real Effects of Credit Ratings*", studies the influence of a credit rating agency's strategy on the investment decisions of a firm. Underinvestment occurs when shareholders choose to forego a positive net present value investment, that would be undertaken in the absence of debtholders. Credit ratings come into the picture when a firm weighs the costs of investing in a better project against benefits stemming from reduced debt payments in the case of a rating upgrade. The sooner the firm invests in the more productive project, the more likely it is to get a higher rating and keep it for a longer time. In turn, the prospects of lower interest payments and lower probability of default that come with a rating upgrade increase the incentive to invest in the first place. We show that this feedback effect depends on the rating policy the agency pursues when assessing a firm's performance.