In finance, the field of asset pricing studies the sources and nature of fluctuations in the prices of financial assets. The first chapter proposes a new explanation for the classic equity premium puzzle by characterizing investors with a preference for robustness. A well-documented stylized fact is that average returns on stocks and long government bonds are much higher than the return on short bonds that would imply either the investors are highly risk averse or the perceived investments are very risky. We pursue the idea that investors are uncertain of the risk and seek for a robust investment rule that would work as well if the true risk were higher than perceived. The second and third chapter focus on the recently emerging markets of volatility derivatives. We examine the market efficiency in volatility trading, and discover an anomaly in comparing prices of the volatility risk implied by two different volatility markets. We also discuss whether standard volatility models are able to reproduce the relation between the measured realized volatility and the market quoted price for volatility.

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