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Learning and Forecasts about Option Returns through the Volatility Risk Premium

Alejandro Bernales , Louisa Chen , Marcela Valenzuela

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Authors: Alejandro Bernales, Louisa Chen and Marcela Valenzuela

Author's affiliations: Alejandro Bernales is at Universidad de Chile (Centro de Finanzas y Centro de Economía Aplicada), email: abernales@dii.uchile.cl<<mailto:abernales@dii.uchile.cl>>. Louisa Chen is at the School of Business, Management, and Economics, University of Sussex, United Kingdom, email: louisa.xh.chen@gamil.com<<mailto:louisa.xh.chen@gamil.com>>. Marcela Valenzuela is at Universidad de Chile (Centro de Finanzas and Centro de Economía Aplicada), and she is also part of the Financial Markets Groups, London School of Economics, email: m.a.valenzuela@lse.ac.uk<<mailto:m.a.valenzuela@lse.ac.uk>>.

Abstract

We use learning in an equilibrium model to explain the puzzling predictive power of the volatility risk premium (*VRP*) for option returns. In the model, a representative agent follows a rational Bayesian learning process in an economy under incomplete information with the objective of pricing options. We show that learning induces dynamic differences between probability measures \mathbb{P} and \mathbb{Q} , which produces predictability patterns from the *VRP* for option returns. The forecasting features of the *VRP* for option returns, obtained through our model, exhibit the same behaviour as those observed in an empirical analysis with S&P 500 index options.

JEL classification: D83, G12, G13, G14, G17.

Keywords: Option returns, volatility risk premium, Bayesian learning, predictability, dynamic equilibrium model.

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