

# **Math: Learning Note of An Economic Ph.D. Student**

*For Personal Reference, happy to circulate*

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## HERE WE GO!

Math, we . Although it is not my speciality, I am always interested in this literature. During my pre-doc research fellowship at London Business School, I have had the privilege to study in the course *Financial Economics II: Empirical Finance*. The course instructor Dr. Svetlana Bryzgalova is absolutely one of the most brilliant scholars I have encountered. Thanks to her, I have got to understand this literature more systematically. In this (personal) review, I summarize the most influential and inspirational works in this field and organize them by different topics. The structure of this review resembles the structure of Dr. Bryzgalova's course, while adjusted according to my personal research interest. I intend to review classic works and discuss some potential directions of future study regarding my personal interest in Behavioral Economics, Game Theory and Network.

Since this review is tailored according to my own research interest and experience, I will not only summarize the theoretical perspectives of the studies, present their findings and discuss how they fit into the literature, but document my replication attempts and pseudo codes as well. All the codes related to this review can be found on [my Github page](#).

I thank Dr. Svetlana Bryzgalova for her valuable intuitions and impressive knowledge of the empirical finance literature. Building this review is truly a memorable journey for me. I would love to share this review and all the related materials to anyone that finds them useful. And unavoidably, I would make some typos and other minor mistakes (hopefully not big ones). So I'd really appreciate any correction. If you find any mistakes, please either set up a branch on Github or send the mistakes to this email address [saizhang.econ@gmail.com](mailto:saizhang.econ@gmail.com), BIG thanks in advance!

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