Math Methods – Financial Price Analysis

Spring 2016, Mathematics, G4075

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The dates of seminars

1. 1/22/2016;
2. 1/29/2016;
3. 2/5/2016;
4. 2/12/2016 (HW1 given out);
5. 2/19/2016;
6. 2/26/2016;
7. 3/4/2016;
8. 3/11/2016 (HW2 given out);
9. 3/18/2016;
10. 3/25/2016;
11. 4/1/2016 (Practical Project given out);
12. 4/8/2016;
13. 4/15/2016 (Practical Project presentations);
14. 4/22/2016 (Practical Project presentations).

SEMINAR TIME: Fridays, 5:00 PM – 7:20 PM
SEMINAR ROOM: 312, Mathematics Building
GRADE = ATTENDANCE (20%) + HWs (40%) + PROJECT (40%)
Tentative subjects to be covered

   References for “hedge funds, general”: Book15, Book18, Book29, Article3, Article102, Article103, Article104, Article114, Article116, Article121.

   References for financial data are the data providers: Bloomberg, CQG, CME, TickData.com, CRSP, etc.


   References for “random walk”: Book30.

following and mean-reversion properties through the Variance Ratio test. Examples from the detailed measurements in the S&P 500 E-mini futures. Intra-day seasonality effects.

References for “deviations from Random Walk”: Book1, Book3, Book4, Book5, Article67, Article68, Article111.

6. Response functions. Push-response functions (or push-response diagrams) and other response functions. Mean-reversion and trend-following through the response functions.

References for “push-response diagrams”: Article43, Article44, Article45, Article46, Article113.


References for “Levy or power-law distributions”: Book1 (specifically), Book2, Book3, Book4 (specifically), Book21, Book22, Article11, Article21, Article31, Article37, Article41, Article50, Article55, Article63, Article64, Article65, Article66, Article78, Article88, Article89, Article101, Article111, Article 124.


References for “Analogies with Turbulence”: Book1, Book4, Book6, Book7, Article127, Article125, Article17, Article18, Article19, Article48, Article126, Article128.


References for “Limit Order Book Statistics”: Article12, Article22, Article51, Article52, Article53, Article56, Article57, Article72, Article74, Article75, Article76, Article77, Article78, Article79, Article80, Article81, Article87, Article93, Article94, Article95, Article97, Article98, Article99, Article100, Article101.

References for “Stock Prices Measurements”: Book1, Book5, Article32, Article34, Article35, Article42, Article43, Article44, Article45, Article46, Article47, Article67, Article68.


References for “Fundamental Stock Data Analysis”: Article2, Article6, Article14, Article15, Article20, Article25, Article26, Article27, Article28, Article30.


The main technical reference for “Trading Systems” is Book19 (a required reading). Recommended reading material: Book9, Book10, Book18, Article58, Article90, Article91, Article103.


References for “Portfolio Optimization”: Book13, Book20, Article16, Article17.
Useful references (books) with # of citations\(^1\) a/o 1/10/2010


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\(^1\) Citations are taken cumulatively from [scholar.google.com](http://scholar.google.com).
Useful references (articles) with # of citations a/o 1/10/2010

114. Shamillia Sivathambu, “Behind the Rumors”, Profile of Ken Griffin of Citadel Investments, HFMWeek, Issue 29, April 2006. (citations: 0)
121. Katherine Burton, “Adapt or Die”, Hedge Fund Review, July 2004. (citations: 0)

Useful references (DVDs)


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