

## Combined References

- Abergel, F. and N. Huth (forthcoming 2012a) High Frequency Correlation Intraday Profile. Empirical Facts.
- Abergel, F. and N. Huth (forthcoming 2012b) High Frequency Lead/Lag Relationships. Empirical Facts.
- Abergel, F. and N. Huth (2012). The Times Change: Multivariate Subordination. Empirical Facts, *Quantitative Finance* **12**(1).
- Abergel, F., A. Chakraborti, I. Muni Toke and M. Patriarca (2011a) Econophysics Review: 1. Empirical Facts, *Quantitative Finance* **11**(7), 991–1012.
- Abergel, F., A. Chakraborti, I. Muni Toke and M. Patriarca (2011b) Econophysics Review: 2. Agent-Based Models, *Quantitative Finance* **11**(7) 1013–1041.
- Admati, A. and P. Pfleiderer (1988) A Theory of Intraday Patterns: Volume and Price Variability. *Review of Financial Studies* **1**(1), 3–40.
- Ahn, H., K. Bae and K. Chan (2001) Limit Orders, Depth and Volatility: Evidence from the Stock Exchange of Hong Kong, *Journal of Finance* **56**, 767–788.
- Alfarano, S. and T. Lux (2003) A Minimal Noise Traders Model with Realistic Time Series Properties, in *Long Memory in Economics*, G. Teyssière and A.P. Kirman (Eds), Springer, Berlin.
- Almgren, R. (2003) Optimal Execution with Nonlinear Impact Functions and Trading-Enhanced Risk, *Applied Mathematical Finance* **10**, 1–18.
- Almgren, R.F. and N. Chriss (2000) Optimal Execution of Portfolio Transactions *Journal of Risk* **3**(2), 5–39.
- Almgren, R., C. Thum, E. Hauptmann and H. Li (2005) Direct Estimation of Equity Market Impact, *Risk* **18**, 57–62.
- Amihud, Y. and H. Mendelson (1980) Dealership Market: Market-Making with Inventory, *Journal of Financial Economics* **8**, 31–53.
- Anand, A., S. Chakravarty and T. Martell (2005) Empirical Evidence on the Evolution of Liquidity: Choice of Market versus Limit Orders by Informed and Uninformed Traders, *Journal of Financial Markets* **8**, 289–309.
- Andersen, T. and T. Bollerslev (1997) Intraday Periodicity and Volatility Persistence in Financial Markets, *Journal of Empirical Finance* **4**, 115–158.
- Andersen, L.B.G. and N.A. Hutchings (2009) Parameter averaging of Quadratic SDEs with Stochastic Volatility, *Social Science Research Network*.
- Angel, J.J., L.E. Harris and C.S. Spatt (2010) Equity Trading in the 21st Century, Working Paper, Carnegie Mellon.

- Antonov, A. and T. Misirpashaev. (2009) Projection on a Quadratic Model by Asymptotic Expansion with an Application to LMM Swaption, *Social Science Research Network*.
- Arthur, B.W. (1994) Inductive Reasoning and Bounded Rationality: The El Farol Problem, *American Economic Review* **84**, 406–411.
- Back, K. and S. Baruch (2007) Working Orders in Limit Order Markets and Floor Exchanges, *Journal of Finance* **62**, 1589–1621.
- Bacry, E., S. Delattre, M. Hoffmann and J.F. Muzy (2011) Modeling microstructure noise with mutually exciting point processes.
- Bae, K., H. Jang and K.S. Park (2003) Traders' Choice between Limit and Market Orders: Evidence from NYSE Stocks, *Journal of Financial Markets* **6**, 517–538.
- Bandi, F.M. and J.R. Russell (2005) Microstructure Noise, Realized Volatility, and Optimal Sampling.
- Bandi, F.M., J.R. Russell and C. Yang (2008) Realized Volatility Forecasting and Option Pricing, *Journal of Econometrics* **147**, 34–46.
- Barber, B.M., Y.-T. Lee, Y.-J. Liu and T. Odeh (2004) Do Individual Day Traders Make Money?, evidence from Taiwan.
- Barndorff-Nielsen, O. and N. Shephard (2002) Econometric Analysis of Realized Volatility and Its Use in Estimating Stochastic Volatility Models, *Journal of the Royal Statistical Society, Series B (Statistical Methodology)* **64**(2), 253–280.
- Barndorff-Nielsen, O.E. and N. Shephard (2004) Power and Bipower Variation with Stochastic Volatility and Jumps, *Journal of Financial Econometrics* **2**, 1–48.
- Barndorff-Nielsen, O.E., S.E. Graversen, J. Jacod, M. Podolskij and N. Shephard (2006) A Central Limit Theorem for Realised Power and Bipower Variations of Continuous Semimartingales. In *From Stochastic Calculus to Mathematical Finance*, Springer, Berlin, pp. 33–68.
- Bauer, R., M. Cosemans and P. Eichholtz (2007) The Performance and Persistence of Individual Investors: Rational Agents or Tulip Maniacs?, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=965810](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=965810).
- Bergomi, L. (2010) Correlations in Asynchronous Markets, *Social Science Research Network*, <http://ssrn.com/abstract=1635866>.
- Bertsimas, D. and A.W. Lo (1998) Optimal Control of Execution Costs, *Journal of Financial Markets* **1**(1), 1–50.
- Biais, B., T. Foucault and S. Moinas (2011) Equilibrium Algorithmic Trading, Working Paper, Université de Toulouse.
- Biais, B., H. Glosten and C. Spatt (2005) Market Microstructure: A Survey of Microfoundations, Empirical Results, and Policy Implications, *Journal of Financial Markets* **8**, 217–264.
- Biais, B., P. Hillion and C. Spatt (1995) An Empirical Analysis of the Limit Order Book and the Order Flow in the Paris Bourse, *Journal of Finance* **50**, 1655–1689.
- Biais, B., J. Hombert and P.O. Weill (2010) Trading and Liquidity with Limited Cognition, Working Paper, Toulouse University, IDEI.
- Biais, B., D. Martimort and J.-C. Rochet (2000) Competing Mechanisms in a Common Value Environment, *Econometrica* **68**, 799–837.
- Bibinger, M. (2011a) Efficient Covariance Estimation for Asynchronous Noisy High-Frequency Data, *Scandinavian Journal of Statistics* **38**, 23–45. DOI: 10.1111/j.14679469.2010.00712.x.
- Bibinger, M. (2011b) An Estimator for the Quadratic Covariation of Asynchronously Observed Itô Processes with Noise: Asymptotic Distribution Theory, preprint.

- Black, F. (1971) Towards an Automated Exchange, Part 1, *Financial Analysts Journal*, **27**, July–August, 29–34.
- Bloomfield, R., M. O'Hara and G. Saar (2005) The “Make or Take” Decision in an Electronic Market: Evidence on the Evolution of Liquidity, *Journal of Financial Economics* **75**, 165–199.
- Bouchard, B., N.-M. Dang and C.-A. Lehalle (2011) Optimal Control of Trading Algorithms: A General Impulse Control Approach, *SIAM Journal of Financial Mathematics*.
- Bouchaud, J.-P., Y. Gefen, M. Potters and M. Wyart (2004) Fluctuations and Response in Financial Markets: The Subtle Nature of “Random” Price Changes, *Quantitative Finance* **4**(2), 176–190.
- Bouchaud, J.-P., J.D. Farmer and F. Lillo (2009) How Markets Slowly Digest Changes in Supply and Demand, in *Handbook of Financial Markets: Dynamics and Evolution*, T. Hens and K.R. Schenk-Hoppe (Eds), North-Holland, Elsevier.
- Bouchaud, J.-P., I. Giardina and M. Mézard (2001) On a Universal Mechanism for Long Ranged Volatility Correlations, *Quantitative Finance* **1**, 212, cond-mat/0012156.
- Bouchaud, J.-P., J. Kockelkoren and M. Potters (2006) Random Walks, Liquidity Molasses and Critical Response in Financial Markets, *Quantitative Finance* **6**(2), 115.
- Bouchaud, J.-P., M. Mezard and M. Potters (2002) Statistical Properties of Stock Order Books: Empirical Results and Models, *Quantitative Finance* **2**, 251–256.
- Boulatov, A. and T.J. George (2008) Securities Trading when Liquidity Providers are Informed, Working Paper.
- Brennan, M.J. (1975) The Optimal Number of Securities in a Risky Asset Portfolio When There are Fixed Costs of Transacting: Theory and Some Empirical Results, *Journal of Financial and Quantitative Analysis* **10**(3), 483–496.
- Brock, W.A. and C.H. Hommes (1997) A Rational Route to Randomness, *Econometrica* **65**, 1059–1095.
- Brogaard, J.A. (2010) High Frequency Trading and Its Impact on Market Quality, Working Paper, Northwestern University.
- Caldarelli, G., M. Marsili and Y.-C. Zhang (1997) A Prototype Model of Stock Exchange, *Europhysics Letters* **50**, 479–484.
- Cao, C., O. Hansch and X. Wang (2008) The Information Content of an Open Limit-Order Book, *Journal of Futures Markets* **29**, 16–41.
- Cespa, G. and T. Foucault (2011a) Sale of Price Information by Exchanges: Does It Promote Price Discovery?, Working Paper, HEC.
- Cespa, G. and T. Foucault (2011b) Learning from Prices, Liquidity Spillovers, and Endogenous Market Segmentation, CEPR Working Paper 8350.
- CESR (2010a) Trends, Risks and Vulnerabilities in Financial Markets, Report.
- CESR (2010b) Call for Evidence: Micro-Structural Issues of the European Equity Markets.
- CFTC & SEC (2010) Commodity and Futures Trading Commission and Securities and Exchange Commission, Findings Regarding the Market Events of May 6, 2010, Report of the Staffs of the CFTC and SEC to the Joint Advisory Committee on Emerging Regulatory Issues (September 30, 2010).
- Chaboud, A., B. Chiquoine, E. Hjalmarsson and C. Vega (2009) Rise of the Machines: Algorithmic Trading in the Foreign Exchange Market, Working Paper, FED, New York.
- Chakravarty, S. and C. Holden (1995) An Integrated Model of Market and Limit Orders, *Journal of Financial Intermediation* **4**, 213–241.
- Challet, D. (2007) Inter-pattern Speculation: Beyond Minority, Majority and  $\$$ -Games, *Journal of Economics, Dynamics and Control* **32**(1), 85–100.

- Challet, D., A. De Martino, M. Marsili and I.P. Castillo (2005a) Minority games with finite score memory, *Journal of Experiment and Theory*, P03004, cond-mat/0407595.
- Challet, D., M. Marsili and Y.-C. Zhang (2005b) *Minority Games*, Oxford University Press, Oxford.
- Chan, K., Y.P. Chung and H. Johnson (1995) The Intraday Behavior of Bid-Ask Spreads for NYSE Stocks and CBOE Options, *Journal of Financial and Quantitative Analysis* **30**(3), 329–346.
- Chan, L.K.C. and J. Lakonishok (1993) Institutional Trades and Intraday Stock Price Behavior, *Journal of Financial Economics* **33**, 173–199.
- Chan, L.K.C. and J. Lakonishok (1995) The Behavior of Stock Prices around Institutional Trades, *Journal of Finance* **50**, 1147–1174.
- Chordia, T., R. Roll and A. Subrahmanyam (2005) Evidence on the Speed of Convergence to Market Efficiency, *Journal of Financial Economics* **76**, 271–292.
- Chordia, T., R. Roll and A. Subrahmanyam (2010) Recent Trends in Trading Activity, Working Paper, Anderson School, UCLA.
- Christian Silva, A. (2005) Applications of Physics to Finance and Economics: Returns, Trading Activity and Income, PhD Thesis.
- Chung, K., B. Van Ness and R. Van Ness (1999) Limit Orders and the Bid-Ask Spread, *Journal of Financial Economics* **53**, 255–287.
- Clark, P.K. (1973) A Subordinated Stochastic Process Model with Finite Variance for Speculative Prices, *Econometrica* **41**(1), 135–155.
- Cleveland, W.S. and S.J. Devlin (1988) Locally Weighted Regression: An Approach to Regression Analysis by Local Fitting, *Journal of the American Statistical Association* **83**(403), 596–610.
- Cohen, K., S. Maier, R. Schwartz and D. Whitcomb (1981) Transaction Costs, Order Placement Strategy, and Existence of the Bid-Ask Spread, *Journal of Political Economy* **89**, 287–305.
- Colliard, J.-E. and T. Foucault (2011) Trading Fees and Efficiency in Limit Order Markets, CEPR Discussion Paper Series 8395.
- Cont, R., A. Kukanov and S. Stoikov (2011) The Price Impact of Order Book Events, SSRN eLibrary.
- Copeland, T.E. and D. Galai (1983) Information Effects on the Bid-Ask Spread, *Journal of Finance* **38**, 1457–1469.
- Criscuolo, A.M. and H. Waelbroeck (2010) Optimal Execution in Presence of Hidden Order Arbitrage, Pipeline Preprint PIPE-2011-01.
- Dalalyan A. and N. Yoshida (2011) Second-Order Asymptotic Expansion for a Non-synchronous Covariation Estimator, *Annales de l'Institut Henri Poincaré, Probabilités et Statistiques* **47**(3), 748–789.
- De Jong, F. and T. Nijman (1997) High Frequency Analysis of Lead-Lag Relationships between Financial Markets, *Journal of Empirical Finance* **4**(2–3), 259–277.
- Dea, S., N.R. Gondhib, V. Manglac and B. Pochirajud (2010) Success/Failure of Past Trades and Trading Behavior of Investors.
- Demsetz, H. (1968) The Cost of Transacting, *Quarterly Journal of Economics* **82**, 33–53.
- Dermoune, A. and Y. Kutoyants (1995) Expansion of Distribution of Maximum Likelihood Estimate for Misspecified Diffusion Type Observation, *Stochastics Report* **52**(1–2), 121–145.
- Dohnal, G. (1987) On Estimating the Diffusion Coefficient, *Journal of Applied Probability* **24**(1), 105–114.
- Dow, J. and G. Gorton (1997) Stock Market Efficiency and Economic Efficiency: Is There a Connection?, *Journal of Finance* **52**, 1087–1129.

- Duffie, D. (2010) Presidential Address: Asset Price Dynamics with Slow Moving Capital, *Journal of Finance* **65**, 1237–1267.
- Dufour, A. and R.F. Engle (2000) Time and the Price Impact of a Trade, *Journal of Finance* **55**(6) 2467–2498.
- Easley, D., S. Hvidkjaer and M. O'Hara (2002) Is Information Risk a Determinant of Asset Returns?, *Journal of Finance* **57**, 2185–2221.
- Efron, B. and R.-J. Tibshirani (1993) *An Introduction to the Bootstrap*, Chapman & Hall, New York.
- Eisler, Z., J.-P. Bouchaud and J. Kockelkoren (2009) The Price Impact of Order Book Events: Market Orders, Limit Orders and Cancellations, SSRN eLibrary.
- Eisler, Z., J.-P. Bouchaud and J. Kockelkoren (2010) The Price Impact of Order Book Events: Market Orders, Limit Orders and Cancellations, Working Paper.
- Eisler, Z., J.-P. Bouchaud and J. Kockelkoren (2011) The Price Impact of Order Book Events: Market Orders, Limit Orders and Cancellations, arXiv:0904.0900, to appear in *Quantitative Finance*.
- Ellul, A., C. Holden, P. Jain and R. Jennings (2005) Order Dynamics: Recent Evidence from the NYSE, Working Paper.
- Engle, R.F. and A.J. Patton (2004) Impact of Trades in an Error-Correction Model of Quote Prices, *Journal of Financial Markets* **7**, 1–25.
- Epps, T.W. (1979) Comovements in Stock Prices in the Very Short-Run., *Journal of the American Statistical Association* **74**, 291–298.
- Farmer, J.D., A. Gerig, F. Lillo and S. Mike (2006) Market Efficiency and the Long-Memory of Supply and Demand: Is Price Impact Valuable and Permanent or Fixed and Temporary?, *Quantitative Finance* **6**, 107–112.
- Farmer, J.D., A. Gerig, F. Lillo and H. Waelbroeck (2011) How Efficiency Shapes Market Impact, arXiv: 1102.5457v2[q-fin.TR].
- Farmer, J.D., L. Gillemot, F. Lillo, S. Mike and A. Sen (2004) What Really Causes Large Price Changes?, *Quantitative Finance* **4**, 383–397.
- Foucault, T. (1999) Order Flow Composition and Trading Costs in a Dynamic Limit Order Market, *Journal of Financial Markets* **2**, 99–134.
- Foucault, T. and A.J. Menkveld (2008) Competition for Order Flow and Smart Order Routing Systems, *Journal of Finance* **63**, 119–158.
- Foucault, T., O. Kadan and E. Kandel (2005) Limit Order Book as a Market for Liquidity. *Review of Financial Studies* **18**(4), 1171–1217.
- Foucault, T., O. Kadan and E. Kandel (2010) Liquidity Cycles, and Make/Take Fees in Electronic Markets, CEPR Discussion Paper Series 7551.
- Foucault, T., A. Roëll and P. Sandas (2003) Market Making with Costly Monitoring: An Analysis of SOES Trading, *Review of Financial Studies* **16**, 345–384.
- Froot, K., D.S. Scharfstein and J. Stein (1992) Herd on the Street: Informational Inefficiencies in a Market with Short-Term Speculation, *Journal of Finance* **47**, 1461–1484.
- Fukasawa, M. (2011) Asymptotic Analysis for Stochastic Volatility: Martingale Expansion, *Finance and Stochastics* **15**(4), 635–654.
- Gabaix, X., P. Gopikrishnan, V. Plerou and H.E. Stanley (2006) Institutional Investors and Stock Market Volatility, *Quarterly Journal of Economics* **121**, 461–504.
- Garman, M.B. (1976) Market Microstructure, *Journal of Financial Economics* **3**(3), 257–275.
- Garvey, R. and F. Wu (2010) Speed, Distance, and Electronic Trading: New Evidence on Why Location Matters, *Journal of Financial Markets* **13**, 367–396.
- Gatheral, J. (2010) No-Dynamic-Arbitrage and Market Impact, *Quantitative Finance* **10**(7), 749–759.

- Genon-Catalot, V. and J. Jacod (1993) On the Estimation of the Diffusion Coefficient for Multidimensional Diffusion Processes, *Annales de l'Institut Henri Poincaré, Probabilités et Statistiques* **29**(1), 119–151.
- Genon-Catalot, V. and J. Jacod (1994) Estimation of the Diffusion Coefficient for Diffusion Processes: Random Sampling, *Scandinavian Journal of Statistics* **21**(3), 193–221.
- Gerig, A. (2008) A Theory for Market Impact: How Order Flow Affects Stock Price, PhD Thesis, arXiv:0804.3818.
- Giardina, I. and J.-P. Bouchaud (2003) Bubbles, Crashes and Intermittency in Agent Based Market Models, *European Physics Journal Series B*, **31**(3), 421–437.
- Glosten, L. (1994) Is the Electronic Open Limit Order Book Inevitable?, *Journal of Finance* **49**, 1127–1161.
- Glosten, L.R. and P.R. Milgrom (1985) Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders, *Journal of Financial Economics* **14**(1), 71–100.
- Goettler, R., C. Parlour and U. Rajan (2005) Equilibrium in a Dynamic Limit Order Market, *Journal of Finance* **60**, 2149–2192.
- Goettler, R., C. Parlour and U. Rajan (2009) Informed Traders and Limit Order Markets, *Journal of Financial Economics* **93**, 67–87.
- Goldstein, M. and K. Kavajecz (2000) Trading Strategies during Circuit Breakers and Extreme Market Movements, *Journal of Financial Markets* **7**, 301–333.
- Gomes, C. and H. Waelbroeck (2008) Effect of Trading Velocity and Limit Prices on Implementation Shortfall, Pipeline Financial Group Preprint PIPE-2008-09-003.
- Gomes, C. and H. Waelbroeck (2010) Transaction Cost Analysis to Optimize Trading Strategies, *Journal of Trading*, Fall **5**(4).
- Gopikrishnan, P., V. Plerou, X. Gabaix and H.E. Stanley (2000) Statistical Properties of Share Volume Traded in Financial Markets, *Physical Review E* **62**(4), R4493–R4496.
- Granado, B. and P. Garda (1997) Evaluation of the CNAPS Neuro-computer for the Simulation of MLPS with Receptive Fields, in *Biological and Artificial Computation: From Neuroscience to Technology*, J. Mira, R. Moreno-Díaz and K. Cabestany, (Eds), Vol. 1240 of *Lecture Notes in Computer Science*, Chapter 84, Springer, Berlin/Heidelberg, pp. 817–824.
- Griffin, J.E. and R.C.A. Oomen (2011) Covariance Measurement in the Presence of Non-Synchronous Trading and Market Microstructure Noise, *Journal of Econometrics* **160**(1), 58–68.
- Griffiths, M., B. Smith, A. Turnbull and R. White (2000) The Costs and Determinants of Order Aggressiveness, *Journal of Financial Economics* **56**, 65–88.
- Grossman, S. and J. Stiglitz (1980) On the Impossibility of Informationally Efficient Markets, *American Economic Review* **70**, 393–408.
- Guéant, O., C.-A. Lehalle and J. Fernandez-Tapia (2011) Dealing with the Inventory Risk, Technical Report.
- Handa, P. and R. Schwartz (1996) Limit Order Trading, *Journal of Finance* **51**, 1835–1861.
- Handa, P., R. Schwartz and A. Tiwari (2003) Quote Setting and Price Formation in an Order Driven Market, *Journal of Financial Markets* **6**, 461–489.
- Hansen, P.R. and A. Lunde (2006) Realized Variance and Market Microstructure Noise, *Journal of Business and Economic Statistics* **24**, 127–161.
- Härdle, W.K., N. Hautsch and A. Mihoci (2009) Modelling and Forecasting Liquidity Supply Using Semiparametric Factor Dynamics, Discussion Paper 2009/18, Collaborative Research Center 649 “Economic Risk”, Humboldt-Universität zu Berlin.



- Härdle, W. and A. Kirman (1995) Nonclassical Demand: A Model-Free Examination of Price-Quantity Relations in the Marseille Fish Market, *Journal of Econometrics* **67**(1), 227–257.
- Harris, L. (1997) Order Exposure and Parasitic Traders, Working Paper, Marshall School of Business, University of Southern California.
- Harris, L. (1998) Optimal Dynamic Order Submission Strategies in Some Stylized Trading Problems, *Financial Markets, Institutions and Instruments* **7**(2).
- Harris, L. and J. Hasbrouck (1996) Market versus Limit Orders: The Superdot Evidence on Order Submission Strategy, *Journal of Financial and Quantitative Analysis* **31**, 213–231.
- Hasbrouck, J. (1991) Measuring the Information Content of Stock Trades, *Journal of Finance* **46**, 179–207.
- Hasbrouck, J. (1995) One Security, Many Markets: Determining the Contribution to Price Discovery, *Journal of Finance* **50**, 1175–1199.
- Hasbrouck, J. (2007) *Empirical Market Microstructure: The Institutions, Economics, and Econometrics of Securities Trading*, Oxford University Press.
- Hasbrouck, J. and G. Saar (2009) Technology and Liquidity Provision: The Blurring of Traditional Definitions, *Journal of Financial Markets* **12**, 143–172.
- Hasbrouck, J. and G. Saar (2010) Low-Latency Trading, Working Paper, New York University.
- Hautsch, N. and R. Huang (2009) The Market Impact of a Limit Order, Working Paper.
- Hayashi, T. and S. Kusuoka (2008) Consistent Estimation of Covariation Under Nonsynchronicity, *Statistical Inference for Stochastic Processes* **11**, 93–106.
- Hayashi, T. and N. Yoshida (2005) On Covariance Estimation of Non-Synchronously Observed Diffusion Processes, *Bernoulli* **11**(2), 359–379.
- Hayashi, T. and N. Yoshida (2008a) Asymptotic Normality of a Covariance Estimator for Nonsynchronously Observed Diffusion Processes, *Annals of the Institute of Statistical Mathematics* **60**(2), 367–406.
- Hayashi, T. and N. Yoshida (2008b) Nonsynchronous Covariance Estimator and Limit Theorem II, Institute of Statistical Mathematics, Research Memorandum 1067.
- Hayashi, T. and N. Yoshida (2011) Nonsynchronous Covariance Process and Limit Theorems, *Stochastic Processes and their Applications* **121**(10), 2416–2454.
- Hayashi, T., J. Jacod and N. Yoshida (2008) Irregular Sampling and Central Limit Theorems for Power Variations: The Continuous Case, Preprint.
- Hayek, F. (1945) The Use of Knowledge in Society, *American Economic Review* **35**, 519–530.
- Hendershott, T. and R. Riordan (2009) Algorithmic Trading and Information, Working Paper, University of Berkeley.
- Hendershott, T., C.M. Jones and A.J. Menkveld (2011) Does Algorithmic Trading Improve Liquidity? *Journal of Finance* **66**(1), 1–33.
- Ho, T. and H.R. Stoll (1981) Optimal Dealer Pricing Under Transactions and Return Uncertainty, *Journal of Financial Economics* **9**(1), 47–73.
- Hoffmann, M., M. Rosenbaum and N. Yoshida (2010) Estimation of the Lead-Lag Parameter From Non-Synchronous Data, to appear in *Bernoulli*.
- Hollifield, B., R. Miller and P. Sandås (2004) Empirical Analysis of Limit Order Markets, *Review of Economic Studies* **71**, 1027–1063.
- Hollifield, B., R. Miller, P. Sandås and J. Slive (2006) Estimating the Gains from Trade in Limit-Order Markets, *Journal of Finance* **61**, 2753–2804.
- Hora, M. (2006) The Practice of Optimal Execution. *Algorithmic Trading* **2**, 52–60.

- Hoshikawa, T., K. Nagai, T. Kanatani and Y. Nishiyama (2008) Nonparametric Estimation Methods of Integrated Multivariate Volatilities, *Econometric Reviews* **27**(1–3), 112–138.
- Huang, R. and T. Polak (2011) LOBSTER: The Limit Order Book Reconstructor, Discussion Paper, School of Business and Economics, Humboldt Universität zu Berlin, <http://lobster.wiwi.hu-berlin.de/Lobster/LobsterReport.pdf>.
- Huberman, G. and W. Stanzl (2005) Optimal Liquidity Trading, *Review of Finance* **9**, 165–200.
- Jacod, J. (1996) La variation Quadratique Moyenne du Brownien en Présence d'Erreurs d'Arrondi. In *Hommage a P.A. Meyer et J. Neveu*, Vol. 236, Asterisque.
- Johansen, S. (1991) Estimation and Hypothesis Testing of Cointegration Vectors in Gaussian Vector Autoregressive Models, *Econometrica* **59**, 1551–1580.
- Johansen, S. and K. Juselius (1990) Maximum Likelihood Estimation and Inference on Cointegration – With Applications to the Demand for Money, *Oxford Bulletin of Economics and Statistics* **52**, 169–210.
- Johnson, N.F., M. Hart, P.M. Hui and D. Zheng (2000) Trader Dynamics in a Model Market, *ITJFA* **3**, cond-mat/9910072.
- Jovanovic, B. and A. Menkveld (2011) Middlemen in Limit Order Markets, Working Paper, VU University Amsterdam.
- Kaniel, R. and H. Liu (2006) So What Orders Do Informed Traders Use?, *Journal of Business* **79**, 1867–1913.
- Kato, H., S. Sato and N. Yoshida (2011) Analysis of Foreign Exchange Data with the Lead-Lag Estimator (in Japanese), The 2011 Japanese Joint Statistical Meeting, 4–7 September 2011, Fukuoka.
- Kavajecz, K. and E. Odders-White (2004) Technical Analysis and Liquidity Provision, *Review of Financial Studies* **17**, 1043–1071.
- Keim, D. and A. Madhavan (1995) Execution Costs and Investment Performance: An Empirical Analysis of Institutional Equity Trades, Working Paper.
- Kessler, M. (1997) Estimation of an Ergodic Diffusion from Discrete Observations, *Scandinavian Journal of Statistics* **24**(2), 211–229.
- Khandani, A. and A.W. Lo (2011) What Happened to the Quants in August 2007? Evidence from Factors and Transactions Data, *Journal of Financial Markets*, **14**(1), 1–46.
- Kirilenko, A.A., A.S. Kyle, M. Samadi and T. Tuzun (2011) The Flash Crash: the Impact of High Frequency Trading on an Electronic Market, Working Paper, University of Maryland.
- Kozhan, R. and W.W. Tham (2010) Arbitrage Opportunities: A Blessing or a Curse?, Working Paper, University of Warwick.
- Kunitomo, N. and A. Takahashi (2001) The Asymptotic Expansion Approach to the Valuation of Interest Rate Contingent Claims, *Mathematical Finance* **11**(1), 117–151.
- Kusuoka, S. and N. Yoshida (2000) Malliavin Calculus, Geometric Mixing, and Expansion of Diffusion Functionals, *Probabability Theory and Related Fields* **116**(4), 457–484.
- Kutoyants, Y.A. and N. Yoshida (2007) Moment estimation for ergodic diffusion processes, *Bernoulli* **13**(4), 933–951.
- Kyle, A.P. (1985), Continuous Auctions and Insider Trading, *Econometrica* **53**(6), 1315–1335.
- Large, J. (2009) A Market-Clearing Role for Inefficiency on a Limit Order Book, *Journal of Financial Economics* **91**, 102–117.
- Laruelle, S., C.-A. Lehalle and G. Pagès (2011) Optimal Posting Distance of Limit Orders: A Stochastic Algorithm Approach.



- Latza, T. and R. Payne (2011) Forecasting Returns and Trading Equities Intra-Day Using Limit Order and Market Order Flows, Working Paper.
- Lewis, E. and G. Mohler (2011) A Nonparametric EM algorithm for Multiscale Hawkes Processes, Working Paper.
- Li, C. (2010) Managing Volatility Risk: Innovation of Financial Derivatives, Stochastic Models and Their Analytical Implementation, Columbia University.
- Lillo, F., J.D. Farmer and R.N. Mantegna (2003) Econophysics – Master Curve for Price – Impact Function, *Nature* **421**(6919), 129.
- Lo, I. and S. Sapp (2005) Price Aggressiveness and Quantity: How Are They Determined in a Limit Order Market?, Working Paper.
- Loeb, T.F. (1983) Trading Cost: The Critical Link between Investment Information and Results, *Financial Analysts Journal* **39**(3), 39–44.
- Lütkepohl, H. (1990) Asymptotic Distributions of Impulse Response Functions and Forecast Error Variance Decompositions of Vector Autoregressive Models, *Review of Economics and Statistics* **72**, 116–125.
- Lux, T. and M. Marchesi (1999) Scaling and Criticality in a Stochastic Multi-Agent Model of a Financial Market, *Nature* **397**, 498–500.
- Lyons, R.K. (2006) *The Microstructure Approach to Exchange Rates*, MIT Press.
- Madhavan, A. (2000) Market Microstructure: A Survey, *Journal of Financial Markets* **3**, 205–258.
- Malliavin, P. and M.E. Mancino (2002) Fourier Series Method for Measurement of Multivariate Volatilities, *Finance and Stochastics* **6**(1), 49–61.
- Masuda, H. (2010) Approximate Self-Weighted Lad Estimation of Discretely Observed Ergodic Ornstein-Uhlenbeck Processes, *Electronic Journal of Statistics* **4**, 525–565.
- Masuda, H. and N. Yoshida (2004) An Application of the Double Edgeworth Expansion to a Filtering Model with Gaussian Limit, *Statistical Probability Letters* **70**(1), 37–48.
- Masuda, H. and N. Yoshida (2005) Asymptotic Expansion for Barndorff-Nielsen and Shephard's Stochastic Volatility Model, *Stochastic Processes Application* **115**(7), 1167–1186.
- Mendelson, H. (1982) Market Behavior in a Clearing House, *Econometrica* **50**(6), 1505–1524.
- Menkhoff, L., C. Osler and M. Schmeling (2010) Limit-Order Submission Strategies under Asymmetric Information, *Journal of Banking and Finance* **34**, 2665–2677.
- Menkveld, A. (2011) High Frequency Trading and the New-Market Makers, Working Paper, VU University, Amsterdam.
- Mike, S. and J.D. Farmer (2008) An Empirical Behavioral Model of Liquidity and Volatility, *Journal of Economic Dynamics and Control* **32**, 200.
- Moro, E., L.G. Moyano, J. Vicente, A. Gerig, J.D. Farmer, G. Vaglica, F. Lillo and R.N. Mantegna (2009) Market Impact and Trading Protocols of Hidden Orders in Stock Markets, Technical Report.
- Morton de Lachapelle, D. and D. Challet (2010) Turnover, Account Value and Diversification of Real Traders: Evidence of Collective Portfolio Optimizing Behavior, *New Journal of Physics* **12**, 075039.
- Mykland, P. (2010) A Gaussian Calculus for Inference from High Frequency Data, *Annals of Finance*.
- Mykland, P.A. (1992) Asymptotic Expansions and Bootstrapping Distributions for Dependent Variables: A Martingale Approach, *Annals of Statistics* **20**(2), 623–654.
- Mykland, P.A. (1993) Asymptotic Expansions for Martingales, *Annals Probability* **21**(2), 800–818.
- Obizhaeva, A. and J. Wang (2006) Optimal Trading Strategy and Supply/Demand Dynamics, Technical Report, AFA 2006 Boston Meetings Paper.

- Ogata, Y., D. Vere-Jones and J. Zhuang (2002) Stochastic Declustering of Space–Time Earthquake Occurrences, *Journal of the American Statistical Association* **97**, 369–380.
- Ogihara, T. and N. Yoshida (2011) Quasi-likelihood Analysis for the Stochastic Differential Equation with Jumps, *Statistical Inference for Stochastic Processes* **14**, 189–229.
- O’Hara, M. (1995) *Market Microstructure Theory*, Blackwell.
- Osajima, Y. (2006) The Asymptotic Expansion Formula of Implied Volatility for Dynamic SABR Model and FX Hybrid Model, UTMS 2006–29.
- Pagès, G., S. Laruelle and C.-A. Lehalle (2009) Optimal split of orders across liquidity pools: a stochastic algorithm approach, Technical Report.
- Pakes, A. and P. McGuire (2001) Stochastic Algorithms, Symmetric Markov Perfect Equilibrium, and the “Curse” of Dimensionality, *Econometrica* **69**, 1261–1281.
- Parlour, C. (1998) Price Dynamics in Limit Order Markets, *Review of Financial Studies* **11**, 789–816.
- Parlour, C. and D. Seppi (2008) Limit Order Markets: A Survey, in *Handbook of Financial Intermediation and Banking*, A.V. Thaker and A. Boot (Eds), Elsevier.
- Podolskij, M. and M. Vetter (2009) Estimation of Volatility Functionals in the Simultaneous Presence of Microstructure Noise and Jumps, *Bernoulli Official Journal of the Bernoulli Society for Mathematical Statistics and Probability* **15**(3), 634–658.
- Prakasa Rao, B.L.S. (1983) Asymptotic Theory for Nonlinear Least Squares Estimator for Diffusion Processes, *Mathematische Operationsforschung und Statistik Series Statistics* **14**(2), 195–209.
- Prakasa Rao, B.L.S. (1988) Statistical Inference from Sampled Data for Stochastic Processes. In *Statistical Inference from Stochastic Processes*, Ithaca, New York, 1987, American Mathematical Society, Providence, Rhode Island; *Contemporary Mathematics* **80**, 249–284.
- Ranaldo, A. (2004) Order Aggressiveness in Limit Order Book Markets, *Journal of Financial Markets* **7**, 53–74.
- Robert, C.Y. and M. Rosenbaum (2010a) A New Approach for the Dynamics of Ultra-High-Frequency Data: The Model With Uncertainty Zones, *Journal of Financial Econometrics Advance Access* 1–23.
- Robert, C.Y. and M. Rosenbaum (2010b) Volatility and Covariation Estimation When Microstructure Noise and Trading Times are Endogenous, *Mathematical Finance*, DOI: 10.1111/j.14679965.2010.00454.x.
- Robert, C.Y. and M. Rosenbaum (2010) On the Microstructural Hedging Error, *SIAM Journal on Financial Mathematics* **1**, 427–453.
- Rock, K. (1996) The Specialist’s Order Book and Price Anomalies, Working Paper.
- Roşu, I. (2009) A Dynamic Model of the Limit Order Book, *Review of Financial Studies* **22**, 4601–4641.
- Roşu, I. (2010) Liquidity and Information in Order Driven Markets, SSRN eLibrary.
- Russell, J. and T. Kim (2010) A New Model for Limit Order Book Dynamics, in *Volatility and Time Series Econometrics, Essays in Honor of Robert Engle*, T. Bollerslev, J. Russell and M. Watson (Eds), Oxford University Press.
- Sérisé, E. (2010) unpublished report, Capital Fund Management, Paris, France.
- Sakamoto, Y. and N. Yoshida (1996) Expansion of Perturbed Random Variables Based on Generalized Wiener Functionals, *Journal of Multivariate Analysis* **59**(1), 34–59.
- Sakamoto, Y. and N. Yoshida (1998a) Asymptotic Expansion of  $M$ -Estimator Over Wiener Space, *Statistical Inference of Stochastic Processes* **1**(1), 85–103.
- Sakamoto, Y. and N. Yoshida (1998b) Third Order Asymptotic Expansion for Diffusion Process, *Theory of Statistical Analysis and Its Applications* **107**, 53–60.

- Sakamoto, Y. and N. Yoshida (2003) Asymptotic expansion under degeneracy, *Journal of Japan Statistical Society* **33**(2), 145–156.
- Sakamoto, Y. and N. Yoshida (2004) Asymptotic Expansion Formulas for Functionals of  $\epsilon$ -Markov Processes with a Mixing Property, *Annals of the Institute of Statistical Mathematics* **56**(3), 545–597.
- Sakamoto, Y. and N. Yoshida (2008) Asymptotic Expansion for Stochastic Processes: An Overview and Examples, *Journal of Japan Statistical Society* **38**(1), 173–185.
- Sakamoto, Y. and N. Yoshida (2009) Third-Order Asymptotic Expansion of  $M$ -Estimators for Diffusion Processes, *Annals of the Institute of Statistical Mathematics* **61**(3), 629–661.
- Sakamoto, Y. and N. Yoshida (2010) Asymptotic Expansion for Functionals of a Marked Point Process, *Communications in Statistics – Theory and Methods* **39**(8,9), 1449–1465.
- SEC (2010) Concept Release on Equity Market Structure, Release 34-61358; File S7-02-10.
- Seppi, D. (1997) Liquidity Provision with Limit Orders and a Strategic Specialist, *Review of Financial Studies* **10**, 103–150.
- Sérié, E. (2010) Unpublished Report, Capital Fund Management, Paris, France.
- Sharpe, W.F. (1964) Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk, *Journal of Finance* **19**(3), 425–442.
- Silva, A.C. (2005) Applications of Physics to Finance and Economics: Returns, Trading Activity and Income. PhD Thesis.
- Sorkenmaier, A. and M. Wagener (2011) Do We Need a European “National Market System”? Competition, Arbitrage, and Suboptimal Executions, Working Paper, Karlsruhe Institute of Technology.
- Stoll, H.R. (2000) Friction, *Journal of Finance* **55**, 1479–1514.
- Surowiecki, J. (2005) *The Wisdom of Crowds*, Anchor Books, New York.
- Szabó, G. and C. Hauert (2002) Phase Transitions and Volunteering in Spatial Public Goods Games, *Physical Review Letters* **89**(11), 118101, August.
- Takahashi, A. and K. Takehara (2009) Asymptotic Expansion Approaches in Finance: Applications to Currency Options, *Discussion Paper F Series*, URL <http://repository.dl.itc.utokyo.ac.jp/dspace/handle/2261/26663>.
- Takahashi, A. and N. Yoshida (2004) An Asymptotic Expansion Scheme for Optimal Investment Problems, *Statistical Inference for Stochastic Processes* **7**, 153–188.
- Takahashi, A. and N. Yoshida (2005) Monte Carlo Simulation with Asymptotic Method, *Journal of Japan Statistical Society* **35**, 171–203.
- Torre, N. (1997) *Market Impact Model Handbook*, Barra Inc., Berkeley.
- Tóth, B., Z. Eisler, F. Lillo, J.-P. Bouchaud, J. Kockelkoren and J.D. Farmer (2011) How Does the Market React to Your Order Flow, Working Paper.
- Tóth, B. (2011) In preparation.
- Tóth, B., Z. Eisler, F. Lillo, J.-P. Bouchaud, J. Kockelkoren and J. Farmer (2011) How Does the Market React to Your Order Flow?, arXiv:1104.0587.
- Ubukata, M. and K. Oya (2008) A Test for Dependence and Covariance Estimator of Market Microstructure Noise. Discussion Papers In Economics and Business, 07-03, February 2007.
- Uchida, M. (2010a) Adaptive Estimation of an Ergodic Diffusion Process Based on Sampled Data. In Proceedings of DYNSTOCH Meeting 2010, Angers, France, June 16–19, 2010.
- Uchida, M. (2010b) Contrast-Based Information Criterion for Ergodic Diffusion Processes from Discrete Observations, *Annals of the Institute of Statistical Mathematics* **62**(1), 161–187.

- Uchida, M. and N. Yoshida (2001) Information Criteria in Model Selection for Mixing Processes, *Statistical Inference for Stochastic Processes* **4**(1), 73–98.
- Uchida, M. and N. Yoshida (2004a) Asymptotic Expansion for Small Diffusions Applied to Option Pricing, *Statistical Inference for Stochastic Processes* **7**(3), 189–223.
- Uchida, M. and N. Yoshida (2004b) Information Criteria for Small Diffusions via the Theory of Malliavin-Watanabe, *Statistical Inference for Stochastic Processes* **7**(1), 35–67.
- Uchida, M. and N. Yoshida (2006) Asymptotic Expansion and Information Criteria, *SUT Journal of Mathematics* **42**(1), 31–58.
- Uchida, M. and N. Yoshida (2009) Estimation of the Volatility for Stochastic Differential Equations. In *Asymptotical Statistics of Stochastic Processes VII*, LeMans, March 16–19.
- Uchida, M. and N. Yoshida (2010) Adaptive Estimation of an Ergodic Diffusion Process Based on Sampled Data, Preprint.
- Uchida, M. and N. Yoshida (2011) Nondegeneracy of Statistical Random Field and Quasi Likelihood Analysis for Diffusion, Institute of Statistical Mathematics, Research Memorandum 1149.
- Vives, X. (1995) Short-Term Investment and the Informational Efficiency of the Market, *Review of Financial Studies* **8**, 125–160.
- Wald, J. and H. Horrigan (2005) Optimal Limit Order Choice, *Journal of Business* **78**, 597–619.
- Watanabe, S. (1987) Analysis of Wiener Functionals (Malliavin Calculus) and Its Applications to Heat Kernels, *Annals of Probability* **15**(1), 1–39.
- Weber, P. and B. Rosenow (2005) Order Book Approach to Price Impact, *Quantitative Finance* **5**, 357.
- Whitt, W. (2002) *Stochastic-Process Limits*, Springer.
- Yoshida, N. (1992a) Asymptotic Expansion for Statistics Related to Small Diffusions, *Journal of Japan Statistical Society* **22**(2), 139–159, URL [http://www2.ms.utokyo.ac.jp/probstat/?page\\_id=23](http://www2.ms.utokyo.ac.jp/probstat/?page_id=23).
- Yoshida, N. (1992b) Asymptotic Expansions of Maximum Likelihood Estimators for Small Diffusions Via the Theory of Malliavin-Watanabe, *Probability Theory and Related Fields* **92**(3), 275–311.
- Yoshida, N. (1992c) Estimation for Diffusion Processes from Discrete Observation, *Journal of Multivariate Analysis* **41**(2), 220–242.
- Yoshida, N. (1993) Asymptotic Expansion of Bayes Estimators for Small Diffusions, *Probability Theory and Related Fields* **95**(4), 429–450.
- Yoshida, N. (1997) Malliavin Calculus and Asymptotic Expansion for Martingales, *Probability Theory and Related Fields* **109**(3), 301–342.
- Yoshida, N. (2001) Malliavin Calculus and Martingale Expansion, *Bulletin of Scientific Mathematics* **125**(6–7), 431–456; also *Rencontre Franco-Japonaise de Probabilités* Paris, 2000.
- Yoshida, N. (2004) Partial Mixing and Conditional Edgeworth Expansion for Diffusions with Jumps, *Probability Theory and Related Fields* **129**, 559–624.
- Yoshida, N. (2005) Polynomial Type Large Deviation Inequality and Its Applications, Preprint.
- Yoshida, N. (2006) Polynomial Type Large Deviation Inequalities and Convergence of Statistical Random Fields, The Institute of Statistical Mathematics Research Memorandum 1021.
- Yoshida, N. (2008) Expansion of Asymptotically Conditionally Normal Law. In *Finance and Related Mathematical and Statistical Issues*, Kyoto Research Park, Kyoto, September 3–6, 2008.

- Yoshida, N. (2009) Asymptotic Expansion for the Asymptotically Conditionally Normal Law. SAPS VII, March 16–19, 2009.
- Yoshida, N. (2010a) Expansion of the Asymptotically Conditionally Normal Law, The Institute of Statistical Mathematics Research Memorandum 1125.
- Yoshida, N. (2010b) Quasi-likelihood Analysis and Limit Theorems for Stochastic Differential Equations. In Market Microstructure, Confronting Many Viewpoints, Institut Louis Bachelier, Paris.
- Zhang, F. (2010) High Frequency Trading, Stock Volatility, and Price Discovery, Working Paper, Yale University.
- Zhang, L. (2011) Estimating Covariation: Epps Effect, Microstructure Noise, *Journal of Econometrics* **160**(1), 33–47.
- Zhang, L., P.A. Mykland and Y. Aït-Sahalia (2005) A Tale of Two Time Scales: Determining Integrated Volatility with Noisy High-Frequency Data, *Journal of the American Statistical Association* **100**(472), 1394–1411.
- Zhou, B. (1996) High-Frequency Data and Volatility in Foreign-Exchange Rates, *Journal of Business and Economic Statistics* **14**, 45–52.