

# Bibliography of Microstructure of Foreign Exchange Markets\*

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## Abstract

This file provides a bibliography of the literature on the Microstructure of Foreign Exchange Markets. It includes clickable links to some of the working papers, and also clickable URL or DOI-links<sup>1</sup> to most of the published papers. I will add more annotations over time. The BibTeX database used for this file is available from my homepage.

The references are organized in three sections: 1) Journal papers; 2) Working papers; and 3) Books, book-chapters, PhD dissertations, etc.

## 1 Journal papers

- [1] Akram, Q. Farooq, Dagfinn Rime, and Lucio Sarno. “Arbitrage in the foreign exchange market: Turning on the microscope”. *Journal of International Economics*, 76:237–253, 2008. doi:10.1016/j.jinteco.2008.07.004.

ANNOTATION: Data: D2000-2

- [2] Akram, Q. Farooq, Dagfinn Rime, and Lucio Sarno. “Does the law of one price hold in international financial markets? evidence from tick data”. *Journal of Banking and Finance*, 33(10):1741–1754, 2009. doi:10.1016/j.jbankfin.2008.10.012.

ANNOTATION: Data: D2000-2

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\*Please email me paper-details, including links to paper (either DOI or URL), if you miss a paper on the list, yours or others. The links should preferably be stable links, e.g., links from IDEAS, SSRN, NBER, CEPR, and other institutions.

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<sup>1</sup>DOI, short for Document Object Identifier, is a system for identifying scientific work in the digital environment, and is supposed to be more stable than URLs. Most publishers identify their journal-articles with DOI's. Any DOI can be resolved into a URL by entering it at <http://dx.doi.org>. See <http://doi.org> for more information. The DOI of a paper can be found by making a search at <http://www.crossref.org/guestquery/>.

- [3] Allen, Helen L. and Mark P. Taylor. "Charts, noise and fundamentals in the foreign exchange market". *Economic Journal*, **100**(400):49–59, 1990. doi:10.2307/2234183.

ANNOTATION: Questionnaire survey. See also Taylor and Allen, 1992.

- [4] Almeida, Alvaro, Charles Goodhart, and Richard Payne. "The effects of macroeconomic news on high frequency exchange rate behavior". *Journal of Financial and Quantitative Analysis*, **33**(3):383–408, 1998. doi:10.2307/2331101.

ANNOTATION: Data: High frequency indicative quotes

- [5] Ammer, John and Allan D. Brunner. "Are banks market timers or market makers? explaining foreign exchange trading profits". *Journal of International Financial Markets, Institutions and Money*, **7**(1):43–60, 1997. doi:10.1016/S1042-4431(97)00010-3.

- [6] Andersen, Torben, Tim Bollerslev, Francis X. Diebold, and Clara Vega. "Real-time price discovery in global stock, bond and foreign exchange markets". *Journal of International Economics*, **73**(2):251–277, 2007. doi:10.1016/j.jinteco.2007.02.004.

- [7] Andersen, Torben G. and Tim Bollerslev. "Deutsche mark-dollar volatility: Intraday activity patterns, macroeconomics announcements and longer run dependencies". *Journal of Finance*, **53**(1):219–265, 1998. doi:10.1111/0022-1082.85732.

ANNOTATION: Data: High frequency indicative quotes

- [8] Andersen, Torben G., Tim Bollerslev, and Ashish Das. "Variance-ratio statistics and high-frequency data: Testing for changes in intraday volatility patterns". *Journal of Finance*, **56**(1):305–327, 2001. doi:10.1111/0022-1082.00326.

ANNOTATION: On the Tokyo trading restrictions. Updated version of "Testing for Microstructure Effects in Intraday Volatility: A Reassessment of the Tokyo FX Experiment".

- [9] Andersen, Torben G., Tim Bollerslev, Francis X. Diebold, and Clara Vega. "Micro effects of macro announcements: Real-time price discovery in foreign exchange". *American Economic Review*, **93**(1):38–62, 2003. doi:10.1257/000282803321455151.

- [10] Austin, Mark P., Graham Bates, Michael A. H. Dempster, Vasco Leemans, and Stacy N. Williams. "Adaptive systems for foreign exchange trading". *Quantitative Finance*, **4**(4):37–45, 2004. doi:10.1080/14697680400008593.

- [11] Bacchetta, Philippe and Eric van Wincoop. "A scapegoat model of exchange-rate fluctuations". *American Economic Review Papers and Proceedings*, **94**(2):114–118, 2004. doi:10.1257/0002828041301849.

- [12] Bacchetta, Philippe and Eric van Wincoop. "Can information heterogeneity explain the exchange rate determination puzzle?" *American Economic Review*, 96(3):552–576, 2006. doi:10.1257/aer.96.3.552.

ANNOTATION: Presented at SIFR-workshop on FX microstructure 03.

- [13] Baillie, Richard T. and Tim Bollerslev. "The message in daily exchange rates: A conditional-variance tale". *Journal of Business and Economic Statistics*, 7(3):297–305, 1989. doi:10.2307/1391527.

- [14] Baillie, Richard T. and Tim Bollerslev. "Intra-day and inter-market volatility in foreign exchange rates". *Review of Economic Studies*, 58(3):565–585, 1991. URL <http://links.jstor.org/sici?sici=0034-6527%28199105%2958%3A3%3C565%3AIAIVIF%3E2.0.CO%3B2-H>.

- [15] Beine, Michel and Christelle Lecourt. "Reported and secret interventions in the foreign exchange markets". *Finance Research Letters*, 1(4):215 – 225, 2004. doi:10.1016/j.frl.2004.08.002.

- [16] Berger, David W., Alain P. Chaboud, Sergey V. Chernenko, Edward Howorka, and Jonathan H. Wright. "Order flow and exchange rate dynamics in Electronic Brokerage System data". *Journal of International Economics*, 75(1):93–109, 2008. doi:10.1016/j.jinteco.2007.10.004.

ANNOTATION: Data: EBS (Board data set). Presented at the 1st Annual CB Workshop (BI/NB 05).

- [17] Berger, David W., Alain P. Chaboud, and Erik Hjalmarsson. "What drives volatility persistence in the foreign exchange markets?" *Journal of Financial Economics*, 94(2):192–213, 2009. doi:10.1016/j.jfineco.2008.10.006.

- [18] Bessembinder, Hendrik. "Bid-ask spreads in the interbank foreign exchange markets". *Journal of Financial Economics*, 35(3):317–348, 1994. doi:10.1016/0304-405X(94)90036-1.

- [19] Bjønnes, Geir H. and Dagfinn Rime. "Dealer behavior and trading systems in foreign exchange markets". *Journal of Financial Economics*, 75(3):571–605, 2005. doi:10.1016/j.jfineco.2004.08.001.

ANNOTATION: Data: D2000-1, D2000-2 and EBS (Bjønnes-Rime dealers, all trades, inventories etc.)

- [20] Bjønnes, Geir H., Dagfinn Rime, and Haakon O. Aa. Solheim. "Liquidity provision in the overnight foreign exchange market". *Journal of International Money and Finance*, 24(2):177–198, 2005. doi:10.1016/j.jimonfin.2004.12.003.

ANNOTATION: Data: Sveriges Riksbank data set. Presented at SIFR-workshop in FX microstructure, 03.

[21] Black, Stanley W. "Transactions costs and vehicle currencies". *Journal of International Money and Finance*, **10**(4):512–526, 1991. doi:10.1016/0261-5606(91)90003-3.

[22] Bollerslev, Tim and Ian Domowitz. "Trading patterns and prices in the interbank foreign exchange market". *Journal of Finance*, **48**(4):1421–1443, 1993. doi:10.2307/2329044.

ANNOTATION: Data: High frequency indicative quotes

[23] Bollerslev, Tim and Michael Melvin. "Bid-ask spreads and volatility in the foreign exchange market: An empirical analysis". *Journal of International Economics*, **36**:355–372, 1994. doi:10.1016/0022-1996(94)90008-6.

ANNOTATION: Data: High frequency indicative quotes

[24] Boyer, M. Martin and Simon van Norden. "Exchange rates and order flow in the long run". *Finance Research Letters*, **3**(4):235–243, 2006. doi:10.1016/j.frl.2006.06.002.

ANNOTATION: Data: D2000-1 (Evans-Lyons JIMF 2002 data set)

[25] Breedon, Francis and Paolo Vitale. "An empirical study of liquidity and information effects of order flow on exchange rates". *Journal of International Money and Finance*, 2009. doi:10.1016/j.jimonfin.2009.07.001. Forthcoming.

[26] Brzeszczynski, Janusz and Michael Melvin. "Explaining trading volume in the euro". *International Journal of Finance and Economics*, **11**(1):25–34, 2006. doi:10.1002/ijfe.289.

[27] Burnside, Craig, Martin Eichenbaum, and Sergio Rebelo. "The returns to currency speculation in emerging markets". *American Economic Review Papers and Proceedings*, **97**(2):333–338, 2007. doi:10.1257/aer.97.2.333.

[28] Burnside, Craig, Martin S. Eichenbaum, and Sergio Rebelo. "Understanding the forward premium puzzle: A microstructure approach". *American Economic Journal: Macroeconomics*, **1**(2):127–154, 2009. doi:10.1257/mac.1.2.127.

[29] Cabrera, Juan, Tao Wang, and Jian Yang. "Do futures lead price discovery in electronic foreign exchange markets?" *Journal of Futures Markets*, **29**(2):137–156, 2009. doi:10.1002/fut.20352.

[30] Cai, Fang, Edward Howorka, and Jon Wongswan. "Informational linkages across trading regions: Evidence from foreign exchange markets". *Journal of International Money and Finance*, **27**(8):1215–1243, 2008. doi:10.1016/j.jimonfin.2007.08.001.

ANNOTATION: Data: EBS (Board data set)

- [31] Cai, Fang, Edward Howorka, and Jon Wongswan. "Transmission of volatility and trading activity in the foreign exchange market". *Journal of International Money and Finance*, 2009. URL <http://www.federalreserve.gov/pubs/ifdp/2006/863/default.htm>. Forthcoming.

ANNOTATION: Data: EBS (Board data set)

- [32] Cai, Jun, Yan-Leung Cheung, Raymond S. K. Lee, and Michael Melvin. "Once-in-a-generation' yen volatility in 1998: Fundamentals, intervention, and order flow". *Journal of International Money and Finance*, **20**(3):327–347, 2001. doi:10.1016/S0261-5606(00)00056-5.

- [33] Cao, H. Henry, Martin D. D. Evans, and Richard K. Lyons. "Inventory information". *Journal of Business*, **79**(1):325–363, 2006. doi:10.1086/497413.

ANNOTATION: Data: D2000-1 (Evans data set)

- [34] Carlson, John A. and Melody Lo. "One minute in the life of the DM/US\$: Public news in an electronic market". *Journal of International Money and Finance*, **25**(7):1090–1102, 2006. doi:10.1016/j.jimonfin.2006.08.005.

ANNOTATION: Data: D2000-2 (LSE 1-week data set)

- [35] Carlson, John A. and Carol L. Osler. "Rational speculators and exchange rate volatility". *European Economic Review*, **44**:231–253, 2000. doi:10.1016/S0014-2921(98)00070-1.

- [36] Carpenter, Andrew and Jianxin Wang. "Herding and the information content of trades in the Australian dollar market". *Pacific-Basin Finance Journal*, **15**(2):173–194, 2007. doi:10.1016/j.pacfin.2006.06.002.

- [37] Carrera, José M. "Speculative attacks to currency target zones: A market microstructure approach". *Journal of Empirical Finance*, **6**(5):555–582, 1999. doi:10.1016/S0927-5398(99)00009-2.

ANNOTATION: Data: Daily Mexican Peso Inventories, order flow and volume (Carrera data set)

- [38] Chaboud, Alain and Blake LeBaron. "Foreign exchange trading volume and federal reserve intervention". *Journal of Futures Markets*, **21**:851–860, 2001. doi:10.1002/fut.1904.

- [39] Chaboud, Alain P., Sergey V. Chernenko, and Jonathan H. Wright. "Trading activity and macroeconomic announcements in high-frequency exchange rate data". *Journal of the European Economic Association*, **6**(2-3):589–596, 2008. doi:10.1162/JEEA.2008.6.2-3.589.

- [40] Chakrabarti, Rajesh. "Just another day in the inter-bank foreign exchange market". *Journal of Financial Economics*, **56**(1):29–64, 2000. doi:10.1016/S0304-405X(99)00058-6.

- [41] Chang, Yuanchen and Stephen J. Taylor. "Intraday effects of foreign exchange intervention by the Bank of Japan". *Journal of International Money and Finance*, **17**:191–210, 1998. doi:10.1016/S0261-5606(97)00056-9.
- [42] Chang, Yuanchen and Stephen J. Taylor. "Information arrivals and intraday exchange rate volatility". *Journal of International Financial Markets, Institutions and Money*, **13**(2):85–112, 2003. doi:10.1016/S1042-4431(02)00039-2.
- [43] Chari, Anusha. "Heterogeneous market-making in foreign exchange markets: Evidence from individual bank responses to central bank interventions". *Journal of Money, Credit and Banking*, **39**(5):1131–1162, 2007. doi:10.1111/j.1538-4616.2007.00060.x.

ANNOTATION: Data: High frequency indicative quotes

- [44] Cheung, Yin-Wong and Menzie D. Chinn. "Currency traders and exchange rate dynamics: A survey of the U.S. market". *Journal of International Money and Finance*, **20**(4):439–471, 2001. doi:10.1016/S0261-5606(01)00002-X.

ANNOTATION: Questionnaire survey. Combined revision of NBER Working Papers 7416 and 7417

- [45] Cheung, Yin-Wong, Menzie D. Chinn, and Ian W. Marsh. "How do U.K.-based foreign exchange dealers think their market operates?" *International Journal of Finance and Economics*, **9**:289–306, 2004. doi:10.1002/ijfe.252.

ANNOTATION: Questionnaire survey

- [46] Cheung, Yin-Wong and Clement Yuk-Pang Wong. "A survey of market practitioners' views on exchange rate dynamics". *Journal of International Economics*, **51**(2):401–419, 2000. doi:10.1016/S0022-1996(99)00009-4.

ANNOTATION: Questionnaire survey

- [47] Corsetti, Giancarlo, Paolo Pesenti, and Nouriel Roubini. "What caused the asian currency and financial crisis?" *Japan and the World Economy*, **11**:305–373, 1999. doi:10.1016/S0922-1425(99)00019-5.

- [48] Covrig, Vicentiu and Michael Melvin. "Asymmetric information and price discovery in the FX market: Does tokyo know more about the yen?" *Journal of Empirical Finance*, **9**(3):271–285, 2002. doi:10.1016/S0927-5398(01)00056-1.

ANNOTATION: Tokyo trading restrictions

- [49] Covrig, Vicentiu and Michael Melvin. "Tokyo insiders and the informational efficiency of the yen/dollar exchange rate". *International Journal of Finance and Economics*, **10**(2):185–193, 2005. doi:10.1002/ijfe.263.

ANNOTATION: Tokyo trading restrictions

- [50] Curcio, Riccardo, Charles Goodhart, Dominique Guillaume, and Richard Payne. "Do technical trading rules generate profits? conclusions from the intra-day foreign exchange market". *International Journal of Finance and Economics*, 2(4):267–280, 1997. doi:10.1002/(SICI)1099-1158(199710)2:4<267::AID-JFE57>3.0.CO;2-J.
- [51] Daniélsson, Jón and Ryan Love. "Feedback trading". *International Journal of Finance and Economics*, 11(1):35–53, 2006. doi:10.1002/ijfe.286.
- ANNOTATION: Data: D2000-2 (LSE 99-00 data set)
- [52] Daniélsson, Jón and Richard Payne. "Real trading patterns and prices in spot foreign exchange markets". *Journal of International Money and Finance*, 21(2):203–222, 2002. doi:10.1016/S0261-5606(01)00043-2.
- ANNOTATION: Data: D2000-2 (LSE 1-week data set)
- [53] de Jong, Frank, Roland Mahieu, and Peter Schotman. "Price discovery in the foreign exchange market: An empirical analysis of the yen/dmark rate". *Journal of International Money and Finance*, 17:5–27, 1998. doi:10.1016/S0261-5606(97)00058-2.
- [54] DeGennaro, Ramon P. and Ronald E. Shrieves. "Public information releases, private information arrival and volatility in the foreign exchange market". *Journal of Empirical Finance*, 4(4):295–315, 1997. doi:10.1016/S0927-5398(97)00012-1.
- [55] Demos, Antonis A. and Charles A. E. Goodhart. "The interaction between the frequency of market quotations, spread and volatility in the foreign exchange market". *Applied Economics*, 28(3):377–386, 1996. doi:10.1080/000368496328759.
- [56] Derviz, Alexis. "Asset return dynamics and the FX risk premium in a decentralized dealer market". *European Economic Review*, 48(4):747–787, 2004. doi:10.1016/j.euroecorev.2003.09.004.
- [57] Ding, Liang. "Market structure and dealers' quoting behavior in the foreign exchange market". *Journal of International Financial Markets, Institutions and Money*, 18(4):313–325, 2007. doi:10.1016/j.intfin.2007.03.002.
- [58] Ding, Liang. "Bid-ask spread and order size in the foreign exchange market: An empirical investigation". *International Journal of Finance and Economics*, 14(1):98–105, 2009. doi:10.1002/ijfe.365.
- [59] Dominguez, Kathryn M. "Book review: Richard K. Lyons, *The Microstructure Approach To Exchange Rates*, MIT Press, 2001." *Journal of International Economics*, 61(2):467–471, 2003. doi:10.1016/S0022-1996(03)00047-3.
- [60] Dominguez, Kathryn M. "The market microstructure of central bank intervention". *Journal of International Economics*, 59(1):25–45, 2003. doi:10.1016/S0022-1996(02)00091-0.

- [61] Dominguez, Kathryn M.E. and Freyan Panthaki. "What defines 'News' in foreign exchange markets?" *Journal of International Money and Finance*, 25(1):168–198, 2006. doi:10.1016/j.jimonfin.2005.10.009.

ANNOTATION: Data: D2000-2 (LSE 99-00 data set).

- [62] Domowitz, Ian. "A taxonomy of automated trade execution systems". *Journal of International Money and Finance*, 12(6):607–631, 1993. doi:10.1016/0261-5606(93)90028-A.
- [63] D'Souza, Chris. "Price discovery across geographic locations in the foreign exchange market". *Bank of Canada Review*, 17–25, 2008. URL <http://www.bankofcanada.ca/en/review/spring08/dsouza.pdf>.
- [64] D'Souza, Chris. "The role of dealers in providing interday liquidity in the canadian-dollar market". *Bank of Canada Review*, 17–25, 2008. URL <http://www.bankofcanada.ca/en/review/winter08-09/dsouza.pdf>.
- [65] Duarte, Margarida and Alan C. Stockman. "Rational speculation and exchange rates". *Journal of Monetary Economics*, 52(1):3–29, 2005. doi:10.1016/j.jmoneco.2004.08.004.
- [66] Dunne, Peter, Harald Hau, and Michael Moore. "International order flows: Explaining equity and exchange rate returns". *Journal of International Money and Finance*, 2009. doi:10.1016/j.jimonfin.2008.12.012. Forthcoming.
- [67] Evans, Martin D. D. "FX trading and exchange rate dynamics". *Journal of Finance*, 57(6):2405–2447, 2002. doi:10.1111/1540-6261.00501.

ANNOTATION: Data: D2000-1 (4 months of high-frequency data, 1996). Estimate a structural model with GMM which distinguish between Common Knowledge news and Non-Common Knowledge (NCK) news, where order flow is a function of NCK-news. Evans finds that the importance of order flow increases with horizon and trading intensity. CK-news are rarely important.

- [68] Evans, Martin D. D. "Order flows and the exchange rate disconnect puzzle". *Journal of International Economics*, 2009. doi:10.1016/j.jinteco.2009.05.001. Forthcoming.
- [69] Evans, Martin D. D. and Richard K. Lyons. "Informational integration and FX trading". *Journal of International Money and Finance*, 21(6):807–831, 2002. doi:10.1016/S0261-5606(02)00024-4.

ANNOTATION: Data: D2000-1 (4 months, 1996)

- [70] Evans, Martin D. D. and Richard K. Lyons. "Order flow and exchange rate dynamics". *Journal of Political Economy*, 110(1):170–180, 2002. doi:10.1086/324391.

ANNOTATION: Data: D2000-1 (4 months, 1996)

- [71] Evans, Martin D. D. and Richard K. Lyons. "Time-varying liquidity in foreign exchange". *Journal of Monetary Economics*, **49**(5):1025–1051, 2002. doi:10.1016/S0304-3932(02)00124-1.

ANNOTATION: Data: D2000-1 (4 months, 1996). Comments by Hodrick

- [72] Evans, Martin D. D. and Richard K. Lyons. "Do currency markets absorb news quickly?" *Journal of International Money and Finance*, **24**(6):197–217, 2005. doi:10.1016/j.jimonfin.2004.12.004.

ANNOTATION: Data: D2000-1 (4 months, 1996)

- [73] Evans, Martin D. D. and Richard K. Lyons. "Meese-Rogoff redux: Micro-based exchange-rate forecasting". *American Economic Review Papers and Proceedings*, **95**(2):405–414, 2005. doi:10.1257/000282805774669934.

ANNOTATION: Data: CitiBank customer order flow

- [74] Evans, Martin D. D. and Richard K. Lyons. "Understanding order flow". *International Journal of Finance and Economics*, **11**(1):3–23, 2006. doi:10.1002/ijfe.287.

- [75] Evans, Martin D. D. and Richard K. Lyons. "How is macro news transmitted to exchange rates?" *Journal of Financial Economics*, **88**(1):26–50, 2008. doi:10.1016/j.jfineco.2007.06.001.

- [76] Faust, Jon, John H. Rogers, Shing-Yi B. Wang, and Jonathan H. Wright. "The high-frequency response of exchange rates and interest rates to macroeconomic announcements". *Journal of Monetary Economics*, **54**(4):1051–1068, 2007. doi:10.1016/j.jmoneco.2006.05.015.

- [77] Fieleke, Norman S. "Foreign-exchange speculation by U.S. firms: Some new evidence". *New England Economic Review*, 5–17, 1979.

- [78] Fieleke, Norman S. "Foreign-currency positioning by U.S. firms: Some new evidence". *Review of Economics and Statistics*, **63**(1):35–42, 1981. doi:10.2307/1924215.

- [79] Flood, Mark D. "Microstructure theory and the foreign exchange market". *Federal Reserve Bank of St. Louis Review*, **73**(6):52–70, 1991. URL [http://research.stlouisfed.org/publications/review/91/11/Microstructure\\_Nov\\_Dec1991.pdf](http://research.stlouisfed.org/publications/review/91/11/Microstructure_Nov_Dec1991.pdf).

- [80] Flood, Mark D. "Market structure and inefficiency in the foreign exchange market". *Journal of International Money and Finance*, **13**(2):131–158, 1994. doi:10.1016/0261-5606(94)90012-4.

- [81] Flood, Mark D., R. Huisman, K. G. Koedijk, and Ronald J. Mahieu. "Quote disclosure and price discovery in multiple-dealer financial markets". *Review of Financial Studies*, **12**(1):37–59, 1999. doi:10.1093/rfs/12.1.37.

- [82] Francis, Bill B., Iftekhar Hasan, and Delroy M. Hunter. "Dynamic relations between international equity and currency markets: The role of currency order flow". *Journal of Business*, **79**(1):219–258, 2006. doi:10.1086/497417.
- [83] Frömmel, Michael, Alexander Mende, and Lukas Menkhoff. "Order flows, news, and exchange rate volatility". *Journal of International Money and Finance*, **27**(6):994–1012, 2008. doi:10.1016/j.jimonfin.2007.07.002.
- [84] Froot, Kenneth A. and Tarun Ramadorai. "Currency returns, intrinsic value, and institutional-investor flows". *Journal of Finance*, **60**(3):1535–1566, 2005. doi:10.1111/j.1540-6261.2005.00769.x.

ANNOTATION: Data: StateStreet

- [85] Froot, Kenneth A. and Tarun Ramadorai. "Institutional portfolio flows and international investments". *Review of Financial Studies*, **21**(2):937–971, 2008. doi:10.1093/rfs/hhm091.
- [86] Galati, Gabriele. "Why has global FX turnover declined? explaining the 2001 triennial survey". *BIS Quarterly Review*, 39–47, 2001. URL [http://www.bis.org/publ/r\\_qt0112e.pdf](http://www.bis.org/publ/r_qt0112e.pdf).
- [87] Galati, Gabriele. "Settlement risk in foreign exchange markets and CLS Bank". *BIS Quarterly Review*, 55–66, 2002. URL [http://www.bis.org/publ/qtrpdf/r\\_qt0212f.pdf](http://www.bis.org/publ/qtrpdf/r_qt0212f.pdf).
- [88] Galati, Gabriele and Alexandra Heath. "What drives the growth in FX activity? interpreting the 2007 triennial survey". *BIS Quarterly Review*, 63–72, 2007. URL [http://www.bis.org/publ/qtrpdf/r\\_qt0712g.pdf](http://www.bis.org/publ/qtrpdf/r_qt0712g.pdf).
- [89] Galati, Gabriele, Alexandra Heath, and Patrick McGuire. "Evidence on carry trade activity". *BIS Quarterly Review*, 27–41, 2007. URL [http://www.bis.org/publ/qtrpdf/r\\_qt0709e.pdf](http://www.bis.org/publ/qtrpdf/r_qt0709e.pdf).
- [90] Galati, Gabriele and Michael Melvin. "Why has FX trading surged? explaining the 2004 triennial survey". *BIS Quarterly Review*, 67–74, 2004. URL [http://www.bis.org/publ/qtrpdf/r\\_qt0412f.htm](http://www.bis.org/publ/qtrpdf/r_qt0412f.htm).
- [91] Gallardo, Paola and Alexandra Heath. "Execution methods in foreign exchange markets". *BIS Quarterly Review*, 83–91, 2009. URL [http://www.bis.org/publ/qtrpdf/r\\_qt0903h.pdf](http://www.bis.org/publ/qtrpdf/r_qt0903h.pdf).
- [92] Gehrig, Thomas and Lukas Menkhoff. "The use of flow analysis in foreign exchange: Exploratory evidence". *Journal of International Money and Finance*, **23**(4):573–594, 2004. doi:10.1016/j.jimonfin.2003.12.006.

ANNOTATION: Questionnaire survey

- [93] Gehrig, Thomas and Lukas Menkhoff. "The rise of fund managers in foreign exchange: Will fundamentals ultimately dominate?" *World Economy*, **28**(4):519–540, 2005. doi:10.1111/j.1467-9701.2005.00690.x.

ANNOTATION: Questionnaire survey. Compares FX traders with fund managers.

- [94] Gehrig, Thomas and Lukas Menkhoff. "Extended evidence on the use of technical analysis in foreign exchange". *International Journal of Finance and Economics*, **11**(4):327–338, 2006. doi:10.1002/ijfe.301.

ANNOTATION: Questionnaire survey

- [95] Gnabo, Jean-Yves, Sebastien Laurent, and Christelle Lecourt. "Does transparency in central bank intervention policy bring noise to the FX market? the case of the bank of japan". *Journal of International Financial Markets, Institutions and Money*, **19**(1):94–111, 2009. doi:10.1016/j.intfin.2007.08.008.

- [96] Goldberg, Linda and Rafael Tenorio. "Strategic trading in a two-sided foreign exchange auction". *Journal of International Economics*, **42**(3–4):299–326, 1997. doi:10.1016/S0022-1996(96)01447-X.

- [97] Goodhart, Charles A. E. "The foreign exchange market: A random walk with a dragging anchor". *Economica*, **55**:437–460, 1988. doi:10.2307/2553908.

ANNOTATION: First FX microstructure paper?

- [98] Goodhart, Charles A. E., Yuanchen Chang, and Richard Payne. "Calibrating an algorithm for estimating transactions from FXFX exchange rate quotes". *Journal of International Money and Finance*, **16**(6):921–930, 1997. doi:10.1016/S0261-5606(97)00013-2.

- [99] Goodhart, Charles A. E. and Lorenzo Figliuoli. "Every minute counts in financial markets". *Journal of International Money and Finance*, **10**(1):23–52, 1991. doi:10.1016/0261-5606(91)90025-F.

- [100] Goodhart, Charles A. E., Ryan Love, Richard Payne, and Dagfinn Rime. "Analysis of spreads in the dollar/euro and deutschemark/dollar foreign exchange markets". *Economic Policy*, **17**(35):537–552, 2002. doi:10.1111/1468-0327.00096.

ANNOTATION: Data: D2000-2. The euro-spread debate

- [101] Goodhart, Charles A. E. and Richard G. Payne. "Microstructural dynamics in a foreign exchange electronic broking system". *Journal of International Money and Finance*, **15**(6):829–852, 1996. doi:10.1016/S0261-5606(96)00044-7.

ANNOTATION: Data: D2000-2 (LSE one-day data set)

- [102] Gradojevic, Nikola. "A market microstructure analysis of the Canadian dollar depreciation episodes in the 1990s". *Applied Financial Economics*, **17**(17):1377–1387, 2007. doi:10.1080/09603100601018807.

- [103] Gradojevic, Nikola. "The microstructure of the Canada/U.S. dollar exchange rate: A robustness test". *Economics Letters*, **94**(3):426–432, 2007. doi:10.1016/j.econlet.2006.09.001.

- [104] Gradojevic, Nikola. “Non-linear, hybrid exchange rate modeling and trading profitability in the foreign exchange market”. *Journal of Economic Dynamics and Control*, **31**(2):557–574, 2007. doi:10.1016/j.jedc.2005.12.002.
- [105] Gradojevic, Nikola and Jing Yang. “Non-linear, non-parametric, non-fundamental exchange rate forecasting”. *Journal of Forecasting*, **25**(4):227–245, 2006. doi:10.1002/for.986.
- [106] Guillaume, Dominique M., Michel M. Dacorogna, Rakhil R. Dave, Ulrich A. Müller, Richard B. Olsen, and Olivier V. Pictet. “From the bird’s eye to the microscope: A survey of new stylized facts of the intra-daily foreign exchange markets”. *Finance and Stochastics*, **1**(2):95–129, 1997. doi:10.1007/s007800050018.
- [107] Gümbel, Alexander and Oren Sussman. “Optimal exchange rates: A market microstructure approach”. *Journal of the European Economic Association*, **2**(6):1242–1274, 2004. doi:10.1162/1542476042813823.
- [108] Hartmann, Philipp. “Do Reuters spreads reflect currencies’ differences in global trading activity?” *Journal of International Money and Finance*, **17**(5):757–784, 1998. doi:10.1016/S0261-5606(98)00024-2.
- [109] Hartmann, Philipp. “Trading volumes and transaction costs in the foreign exchange market. evidence from daily dollar–yen spot data”. *Journal of Banking and Finance*, **23**:801–824, 1999. doi:10.1016/S0378-4266(98)00115-0.

ANNOTATION: Data: Tokyo broker volumes (8 years)

- [110] Hau, Harald. “Competitive entry and endogenous risk in the foreign exchange market”. *Review of Financial Studies*, **11**(4):757–788, 1998. doi:10.1093/rfs/11.4.757.
- [111] Hau, Harald, William Killeen, and Michael Moore. “The euro as an international currency: Explaining puzzling first evidence from the foreign exchange markets”. *Journal of International Money and Finance*, **21**(3):351–383, 2002. doi:10.1016/S0261-5606(01)00041-9.

ANNOTATION: Data: High frequency indicative quotes. The euro-spread debate

- [112] Hau, Harald, William Killeen, and Michael Moore. “How has the euro changed the foreign exchange market?” *Economic Policy*, **17**(34):149–192, 2002. doi:10.1111/1468-0327.00086.

ANNOTATION: Data: EBS and indicative quotes. The euro-spread debate.

- [113] Hau, Harald and Hélène Rey. “Can portfolio rebalancing explain the dynamics of equity returns, equity flows, and exchange rates?” *American Economic Review Papers and Proceedings*, **94**(2):126–133, 2004. doi:10.1257/0002828041302389.

- [114] Hau, Harald and Hélène Rey. "Exchange rate, equity prices and capital flows". *Review of Financial Studies*, **19**(1):273–317, 2006. doi:10.1093/rfs/hhjo08.

ANNOTATION: Also NBER 9398. Presented at SIFR 03

- [115] Huang, Roger D. and Ronald W. Masulis. "FX spreads and dealer competition across the 24-hour trading day". *Review of Financial Studies*, **12**(1):61–93, 1999. doi:10.1093/rfs/12.1.61.

- [116] Huang, Roger D. and Hans R. Stoll. "Exchange rates and firms' liquidity: Evidence from ADRs". *Journal of International Money and Finance*, **20**(3):297–325, 2001. doi:10.1016/S0261-5606(01)00001-8.

- [117] Ito, Takatoshi and Yuko Hashimoto. "Intra-day seasonality in activities of the foreign exchange markets: Evidence from the electronic broking system". *Journal of the Japanese and International Economies*, **20**(4):637–664, 2006. doi:10.1016/j.jjie.2006.06.005.

ANNOTATION: Data: EBS. Previously NBER WP 12413

- [118] Ito, Takatoshi, Richard K. Lyons, and Michael T. Melvin. "Is there private information in the FX market? the Tokyo experiment". *Journal of Finance*, **53**(3):1111–1130, 1998. doi:10.1111/0022-1082.00045.

ANNOTATION: Tokyo trading restrictions

- [119] Kaul, Aditya and Stephen Sapp. "Y2K fears and safe haven trading of the U.S. dollar". *Journal of International Money and Finance*, **25**(5):760–779, 2006. doi:10.1016/j.jimonfin.2006.04.003.

- [120] Killeen, William P., Richard K. Lyons, and Michael J. Moore. "Fixed versus flexible: Lessons from EMS order flow". *Journal of International Money and Finance*, **25**(4):551–579, 2006. doi:10.1016/j.jimonfin.2005.11.011.

ANNOTATION: Data: EBS

- [121] Levin, Jay H. "Chartists, fundamentalists and exchange rate dynamics". *International Journal of Finance and Economics*, **2**(4):281–290, 1997. doi:10.1002/(SICI)1099-1158(199710)2:4<281::AID-JFE56>3.0.CO;2-M.

- [122] Lo, Ingrid and Stephen G. Sapp. "The submission of limit orders or market orders: The role of timing and information in the reuters D2000-2 system". *Journal of International Money and Finance*, **27**(7):1056–1073, 2006. doi:10.1016/j.jimonfin.2008.05.009.

ANNOTATION: Data: D2000-2 (LSE 99-00 data set)

- [123] Lothian, James R. "Some new stylized facts of floating exchange rates". *Journal of International Money and Finance*, **17**:29–39, 1998. doi:10.1016/S0261-5606(97)00048-X.

- [124] Love, Ryan and Richard Payne. "Macroeconomic news, order flows and exchange rates". *Journal of Financial and Quantitative Analysis*, 43(2):467–488, 2008. doi:10.1017/S0022109000003598.

ANNOTATION: Data: D2000-2 (LSE 99-00 data set)

- [125] Lui, Yu-Hon and David Mole. "The use of fundamental and technical analyses by foreign exchange dealers: Hong Kong evidence". *Journal of International Money and Finance*, 17:535–545, 1998. doi:10.1016/S0261-5606(98)00011-4.

ANNOTATION: Questionnaire survey

- [126] Lyons, Richard K. "Tests of microstructural hypothesis in the foreign exchange market". *Journal of Financial Economics*, 39:321–351, 1995. doi:10.1016/0304-405X(95)00832-Y.

ANNOTATION: Data: Lyons' dealer (D2000-1, broker-traders, inventories, 1992)

- [127] Lyons, Richard K. "Optimal transparency in a dealer market with an application to foreign exchange". *Journal of Financial Intermediation*, 5(3):225–254, 1996. doi:10.1006/jfin.1996.0014.

- [128] Lyons, Richard K. "A simultaneous trade model of the foreign exchange hot potato". *Journal of International Economics*, 42:275–298, 1997. doi:10.1016/S0022-1996(96)01471-7.

- [129] Lyons, Richard K. "Profits and position control: A week of FX dealing". *Journal of International Money and Finance*, 17(1):97–115, 1998. doi:10.1016/S0261-5606(97)00053-3.

ANNOTATION: Data: Lyons' dealer (D2000-1, broker-traders, inventories, 1992)

- [130] Lyons, Richard K. "New perspective on FX markets: Order-flow analysis". *International Finance*, 4(2):303–320, 2001. doi:10.1111/1468-2362.00075.

ANNOTATION: Survey

- [131] Lyons, Richard K. "Foreign exchange: Macro puzzles, micro tools". *FRBSF Economic Review*, 51–69, 2002. URL <http://www.frbsf.org/publications/economics/review/2002/article4.pdf>.

ANNOTATION: Survey

- [132] Lyons, Richard K. "Theoretical perspectives on euro liquidity". *Economic Policy*, 17(35):573–597, 2002. doi:10.1111/1468-0327.00098.

- [133] Lyons, Richard K. and Michael J. Moore. "An information approach to international currencies". *Journal of International Economics*, 79(2):211 – 221, 2009. doi:10.1016/j.jinteco.2009.08.003.

- [134] Lyons, Richard K. and Andrew K. Rose. "Explaining forward exchange bias ... intraday". *Journal of Finance*, **50**(4):1321–1329, 1995. doi:10.2307/2329355.
- [135] MacDonald, Ronald. "Expectation formation and risk in three financial markets: Surveying what the surveys say". *Journal of Economic Surveys*, **14**(1):69–100, 2000. doi:10.1111/1467-6419.00105.

ANNOTATION: Survey results

- [136] MacDonald, Ronald. "Is the foreign exchange market 'risky'? some new survey-based results". *Journal of Multinational Financial Management*, **10**:1–14, 2000. doi:10.1016/S1042-444X(99)00016-X.

ANNOTATION: Survey results

- [137] MacDonald, Ronald and Ian W. Marsh. "Currency forecasters are heterogeneous: Confirmation and consequences". *Journal of International Money and Finance*, **15**(5):665–685, 1996. doi:10.1016/0261-5606(96)00030-7.
- [138] Martens, Martin and Paul Kofman. "The inefficiency of reuters foreign exchange quotes". *Journal of Banking and Finance*, **22**:347–366, 1998. doi:10.1016/S0378-4266(98)00004-1.
- [139] McGroarty, Frank, Owain ap Gwilym, and Stephen Thomas. "Microstructure effects, bid-ask spreads and volatility in the spot foreign exchange market pre and post-EMU". *Global Finance Journal*, **17**(1):23–49, 2006. doi:10.1016/j.gfj.2006.06.004.
- [140] McGroarty, Frank, Owain ap Gwilym, and Stephen Thomas. "The components of electronic inter-dealer spot FX bid-ask spreads". *Journal of Business Finance & Accounting*, **34**:1635–1650, 2007. doi:10.1111/j.1468-5957.2007.02051.x.
- [141] McGroarty, Frank, Owain ap Gwilym, and Stephen Thomas. "The role of private information in return volatility, bid-ask spreads and price levels in the foreign exchange market". *Journal of International Financial Markets, Institutions and Money*, 2008. doi:10.1016/j.intfin.2008.04.001.
- [142] Melvin, Michael, Lukas Menkhoff, and Maik Schmeling. "Exchange rate management in emerging markets: Intervention via an electronic limit order book". *Journal of International Economics*, **79**(1):54–63, 2009. doi:10.1016/j.jinteco.2009.06.008.
- [143] Melvin, Michael and Mark P. Taylor. "The crisis in the foreign exchange market". *Journal of International Money and Finance*, **28**(8):1317–1330, 2009. doi:10.1016/j.jimonfin.2009.08.006.
- [144] Melvin, Michael and Xixi Yin. "Public information arrival, exchange rate volatility, and quote frequency". *Economic Journal*, **110**(465):644–661, 2000. doi:10.1111/1468-0297.00558.

[145] Mende, Alexander. "09/11 on the USD/EUR foreign exchange market". *Applied Financial Economics*, **16**(3):213–222, 2006. doi:10.1080/09603100500386206.

ANNOTATION: Data: The Menkhoff-dealer

[146] Mende, Alexander and Lukas Menkhoff. "Tobin tax effects seen from the foreign exchange market's microstructure". *International Finance*, **6**(2):227–247, 2003. doi:10.1111/1468-2362.00116.

[147] Mende, Alexander and Lukas Menkhoff. "Profits and speculation in intra-day foreign exchange trading". *Journal of Financial Markets*, **9**(3):223–245, 2006. doi:10.1016/j.finmar.2006.05.003.

ANNOTATION: Data: Complete trading records of dealer in a "median-sized" bank (the "Menkhoff-dealer"). Presented at SIFR 03

[148] Menkhoff, Lukas. "Examining the use of technical currency analysis". *International Journal of Finance and Economics*, **2**(4):307–318, 1997. doi:10.1002/(SICI)1099-1158(199710)2:4<307::AID-JFE54>3.0.CO;2-8.

ANNOTATION: Questionnaire survey

[149] Menkhoff, Lukas. "The noise trading approach — questionnaire evidence from foreign exchange". *Journal of International Money and Finance*, **17**:547–564, 1998. doi:10.1016/S0261-5606(98)00016-3.

ANNOTATION: Questionnaire survey

[150] Menkhoff, Lukas. "High-frequency analysis of foreign exchange interventions: What do we learn?" *Journal of Economic Surveys*, 2008. doi:10.1111/j.1467-6419.2009.00582.x. Forthcoming.

[151] Menkhoff, Lukas and Maik Schmeling. "Local information in foreign exchange markets". *Journal of International Money and Finance*, **27**(8):1383–1406, 2008. doi:10.1016/j.jimonfin.2007.10.003.

[152] Menkhoff, Lukas and Maik Schmeling. "Whose trades convey information? evidence from a cross-section of traders". *Journal of Financial Markets*, **13**(1):101–128, 2010. doi:10.1016/j.finmar.2009.08.001.

[153] Menkhoff, Lukas and Mark P. Taylor. "The obstinate passion of foreign exchange professionals : Technical analysis". *Journal of Economic Literature*, **45**(4):936–972, 2007. doi:10.1257/jel.45.4.936.

[154] Meyer, Erik and Janett Skjelvik. "Statistics on foreign exchange transactions — new insight into foreign exchange markets". *Norges Bank Economic Bulletin*, (2/06):80–88, 2006. URL [http://www.norges-bank.no/upload/import/english/publications/economic\\_bulletin/2006-02/meyer.pdf](http://www.norges-bank.no/upload/import/english/publications/economic_bulletin/2006-02/meyer.pdf).

- [155] Moulton, Pamela C. "You can't always get what you want: Trade-size clustering and quantity choice in liquidity". *Journal of Financial Economics*, **78**(1):89–119, 2005. doi:10.1016/j.jfineco.2004.10.007.
- [156] Neely, Christopher J. "The temporal pattern of trading rule returns and exchange rate intervention: intervention does not generate technical trading profits". *Journal of International Economics*, **58**(1):211–232, 2002. doi:DOI: 10.1016/S0022-1996(01)00163-5.
- [157] Neely, Christopher J. and Paul A. Weller. "Intraday technical trading in the foreign exchange market". *Journal of International Money and Finance*, **22**(2):223–237, 2003. doi:10.1016/S0261-5606(02)00101-8.
- [158] Oberlechner, Thomas. "Importance of technical and fundamental analysis in the european foreign exchange market". *International Journal of Finance & Economics*, **6**(1):81–93, 2001. doi:10.1002/ijfe.145.
- [159] Osler, Carol L. "Exchange rate dynamics and speculator horizon". *Journal of International Money and Finance*, **14**(5):695–720, 1995. doi:10.1016/0261-5606(95)00029-E.
- [160] Osler, Carol L. "Short-term speculators and the puzzling behaviour of exchange rates". *Journal of International Economics*, **45**(1):37–57, 1998. doi:10.1016/S0022-1996(97)00024-X.
- [161] Osler, Carol L. "Support for resistance: Technical analysis and intraday exchange rates". *FBNY Economic Policy Review*, **6**(2):53–68, 2000. URL <http://www.newyorkfed.org/research/epr/00v06n2/0007osle.html>.
- [162] Osler, Carol L. "Currency orders and exchange-rate dynamics: Explaining the success of technical analysis". *Journal of Finance*, **58**(5):1791–1819, 2003. doi:10.1111/1540-6261.00588.

ANNOTATION: Data: Royal Bank of Scotland price-contingent orders

- [163] Osler, Carol L. "Stop-loss orders and price cascades in currency markets". *Journal of International Money and Finance*, **24**(2):219–241, 2005. doi:10.1016/j.jimonfin.2004.12.002.

ANNOTATION: Data: Royal Bank of Scotland price-contingent orders.  
Presented at SIFR 03

- [164] Osler, Carol L. "Macro lessons from microstructure". *International Journal of Finance and Economics*, **11**(1):55–80, 2006. doi:10.1002/ijfe.288.

ANNOTATION: Survey

- [165] Park, Cheol-Ho and Scott H. Irwin. "What do we know about the profitability of technical analysis". *Journal of Economic Surveys*, **21**(4):786–826, 2007. doi:10.1111/j.1467-6419.2007.00519.x.

- [166] Pasquariello, Paolo. “Imperfect competition, information heterogeneity, and financial contagion”. *Review of Financial Studies*, **20**(2):391–426, 2007. doi:10.1093/rfs/hhl010.
- [167] Pasquariello, Paolo. “Informative trading or just costly noise? an analysis of central bank interventions”. *Journal of Financial Markets*, **10**(2):107–143, 2007. doi:10.1016/j.finmar.2006.11.001.
- [168] Payne, Richard. “Informed trade in spot foreign exchange markets: An empirical investigation”. *Journal of International Economics*, **61**(2):307–329, 2003. doi:10.1016/S0022-1996(03)00003-5.
- ANNOTATION: Data: D2000-2, one week in oct. 1997 (LSE 1-week data set). Use Hasbrouck (JF, 91) SVAR-approach and Hasbrouck (RFS, 91) variance decomposition. Results: Finds that the permanent impact of order flow can account for 60% of spread.
- [169] Payne, Richard and Paolo Vitale. “A transaction level study of the effects of central bank intervention on exchange rates”. *Journal of International Economics*, **61**(2):331–352, 2003. doi:10.1016/S0022-1996(03)00012-6.
- ANNOTATION: Presented at SIFR workshop on FX microstructure (03)
- [170] Peiers, Bettina. “Informed traders, intervention, and price leadership: A deeper view of the microstructure of the foreign exchange market”. *Journal of Finance*, **52**(4):1589–1614, 1997. doi:10.2307/2329448.
- ANNOTATION: Data: High frequency indicative quotes
- [171] Phylaktis, Kate and Long Chen. “Price discovery in foreign exchange markets: A comparison of indicative and actual transaction prices”. *Journal of Empirical Finance*, **16**(4):640–654, 2009. doi:10.1016/j.jempfin.2009.02.001.
- [172] Piazzesi, Monika and Martin Schneider. “Asset prices and asset quantities”. *Journal of the European Economic Association*, **5**(2-3):380–389, 2007. doi:10.1162/jeea.2007.5.2-3.380.
- [173] Popper, Helen and John D. Montgomery. “Information sharing and central bank intervention in the foreign exchange market”. *Journal of International Economics*, **55**(2):295–316, 2001. doi:10.1016/S0022-1996(01)00088-5.
- [174] Portes, Richard and Hélène Rey. “The determinants of cross-border equity flows”. *Journal of International Economics*, **65**(2):269–296, 2005. doi:10.1016/j.jinteco.2004.05.002.
- [175] Ramadorai, Tarun. “What determines transaction costs in foreign exchange markets?” *International Journal of Finance and Economics*, **13**(1):14–25, 2008. doi:10.1002/ijfe.351.

- [176] Rinaldo, Angelo. "Segmentation and time-of-day patterns in foreign exchange markets". *Journal of Banking and Finance*, 33(12):2199–2206, 2009. doi:10.1016/j.jbankfin.2009.05.019.
- [177] Reitz, Stefan and Mark P. Taylor. "The coordination channel of foreign exchange intervention: A nonlinear microstructural analysis". *European Economic Review*, 52(1):55–76, 2008. doi:10.1016/j.euroecorev.2007.06.023.
- [178] Rey, H el ene. "International trade and currency exchange". *Review of Economic Studies*, 68(2):443–464, 2001. doi:10.1111/1467-937X.00176.
- [179] Rhee, S. Ghon and Rosita P. Chang. "Intra-day arbitrage opportunities in foreign exchange and eurocurrency markets". *Journal of Finance*, 47(1):363–379, 1992. doi:10.2307/2329102.
- [180] Rime, Dagfinn, Lucio Sarno, and Elvira Sojli. "Exchange rate forecasting, order flow and macroeconomic information". *Journal of International Economics*, 2009. doi:10.1016/j.jinteco.2009.03.005. Forthcoming.
- ANNOTATION: Data: D2000-2. Presented at 2nd Annual CB Workshop (BoC/NB 06).
- [181] Romeu, Rafael. "Why are asset markets modeled successfully, but not their dealers?" *IMF Staff Papers*, 52(3):369–386, 2005. URL <http://www.imf.org/External/Pubs/FT/staffp/2005/04/romeu.htm>.
- [182] Sager, Michael J. and Mark P. Taylor. "Under the microscope: The structure of the foreign exchange market". *International Journal of Finance and Economics*, 11(1):81–95, 2006. doi:10.1002/ijfe.277.
- ANNOTATION: Survey. Describe the market in detail
- [183] Sager, Michael J. and Mark P. Taylor. "Commercially available order flow data and exchange rate movements: *Caveat Emptor*". *Journal of Money, Credit and Banking*, 40(4):583–625, 2008. doi:10.1111/j.1538-4616.2008.00129.x.
- ANNOTATION: Survey. Critically study several data sets.
- [184] Sapp, Stephen G. "Price leadership in the spot foreign exchange market". *Journal of Financial and Quantitative Analysis*, 37(3):425–448, 2002. doi:10.2307/3594987.
- [185] Scalia, Antonio. "Is foreign exchange intervention effective? some microanalytical evidence from the Czech republic". *Journal of International Money and Finance*, 27(4):529–546, 2008. doi:10.1016/j.jimonfin.2008.02.006.
- [186] Schulmeister, Stephan. "The interaction between technical currency trading and exchange rate fluctuations". *Finance Research Letters*, 3(3):212–233, 2006. doi:10.1016/j.frl.2006.03.005.

- [187] Smaby, Timothy R. "An examination of the intraday behavior of the yen/dollar exchange rate: The relationship between trading activity and returns volatility". *Journal of Economics and Finance*, **19**:39–50, 1995. doi:10.1007/BF02920213.
- [188] Sopranzetti, Ben J. and Vinay Datar. "Price clustering in foreign exchange spot markets". *Journal of Financial Markets*, **5**(4):411–417, 2002. doi:10.1016/S1386-4181(01)00032-5.
- [189] Takezawa, Nobuya. "A note on intraday foreign exchange volatility and the informational role of quote arrivals". *Economics Letters*, **48**:399–404, 1995. doi:10.1016/0165-1765(94)00626-D.
- [190] Taylor, Mark P. "Covered interest parity: A high-frequency, high-quality data study". *Economica*, **54**(216):429–438, 1987. doi:10.2307/2554178.
- [191] Taylor, Mark P. "Covered interest arbitrage and market turbulence". *Economic Journal*, **99**(396):376–391, 1989. doi:10.2307/2234031.
- [192] Taylor, Mark P. and Helen Allen. "The use of technical analysis in the foreign exchange market". *Journal of International Money and Finance*, **11**(3):304–314, 1992. doi:10.1016/0261-5606(92)90048-3.

ANNOTATION: Questionnaire survey

- [193] Taylor, Stephen J. and Xinzhong Xu. "The incremental volatility information in one million foreign exchange quotations". *Journal of Empirical Finance*, **4**:317–340, 1997. doi:10.1016/S0927-5398(97)00010-8.
- [194] Tse, Yiuman, Ju Xiang, and Joseph K. W. Fung. "Price discovery in the foreign exchange futures market". *Journal of Futures Markets*, **26**(11):1131–1143, 2006. doi:10.1002/fut.20229.
- [195] Vitale, Paolo. "Sterilised central bank intervention in the foreign exchange market". *Journal of International Economics*, **49**(2):245–267, 1999. doi:10.1016/S0022-1996(98)00065-8.
- [196] Vitale, Paolo. "Speculative noise trading and manipulation in the foreign exchange market". *Journal of International Money and Finance*, **49**(ECO 97/23):245–267, 2000. doi:10.1016/S0261-5606(00)00025-5.
- [197] Vitale, Paolo. "An assessment of some open issues in the analysis of foreign exchange intervention". *International Journal of Finance and Economics*, **12**(2):155–170, 2007. doi:10.1002/ijfe.327.
- [198] Vitale, Paolo. "A guided tour of the market microstructure approach to exchange rate determination". *Journal of Economic Surveys*, **21**(5):903–934, 2008. doi:10.1111/j.1467-6419.2007.00524.x.

ANNOTATION: Survey

- [199] Vogler, Karl-Hubert. "Risk allocation and inter-dealer trading". *European Economic Review*, **41**(8):1615–1634, 1997. doi:10.1016/S0014-2921(96)00049-9.
- [200] Wang, Changyun. "Futures trading activity and predictable foreign exchange market movements". *Journal of Banking and Finance*, **28**(5):1023–1041, 2003. doi:10.1016/S0378-4266(03)00047-5.
- [201] Wang, Jianxin. "Quote revision and information flow among foreign exchange dealers". *Journal of International Financial Markets, Institutions and Money*, **11**(2):115–136, 2001. doi:10.1016/S1042-4431(00)00046-9.

## 2 Working papers

- [202] Ates, Aysegul and George H. K. Wang. "Liquidity and the evolution of price discovery on floor versus screen-based trading systems: An analysis of the foreign exchange futures markets". Working paper, George Mason University, 2005. URL <http://ssrn.com/abstract=754946>.
- [203] Ausubel, Lawrence and Rafael Romeu. "Bidder participation and information in currency auctions". Working Paper 05/157, IMF, 2005. URL <http://ssrn.com/abstract=888026>.
- [204] Ben Omrane, Walid and Andreas Heinen. "The information contents of individual FX dealers' quoting activity". IAG Working Paper 120/04, Catholic University of Louvain, 2005. URL [http://www.fin.ucl.ac.be/staff/wb/quotes\\_info.pdf](http://www.fin.ucl.ac.be/staff/wb/quotes_info.pdf).
- [205] Bjønnes, Geir H., Steinar Holden, Dagfinn Rime, and Haakon O.Aa. Solheim. "'Large' vs. 'small' players: A closer look at the dynamics of speculative attacks". Working Paper 2005/13, Norges Bank, 2005. URL <http://www.norges-bank.no/Upload/import/publikasjoner/arbeidsnotater/pdf/arb-2005-13-rev2007.pdf>.

ANNOTATION: Data: Norges Bank and Sveriges Riksbank data set.  
Presented at BoC/NB 06

- [206] Bjønnes, Geir H., Carol L. Osler, and Dagfinn Rime. "Asymmetric information in the foreign exchange market". Working Paper 2008/25, Norges Bank, 2008. URL [http://www.norges-bank.no/templates/article\\_\\_\\_\\_73190.aspx](http://www.norges-bank.no/templates/article____73190.aspx).

ANNOTATION: Data: D2000-1, D2000-2 and EBS (Bjønnes-Rime data set). Presented at the 3rd CB Workshop (MNB 07).

- [207] Breedon, Francis and Angelo Ranaldo. "Intraday patterns in FX returns and order flow". typescript, Swiss National Bank, 2009.
- [208] Breedon, Francis, Dagfinn Rime, and Paolo Vitale. "A transaction data study of the forward bias puzzle". typescript, Imperial College Business School, 2009.

ANNOTATION: Data: 10 years of EBS order flow

- [209] Burnside, Craig, Martin Eichenbaum, Isaac Kleshchelski, and Sergio Rebelo. "The returns to currency speculation". Working Paper 12489, National Bureau of Economic Research, 2006. URL <http://www.nber.org/papers/w12489>.
- [210] Canales-Kriljenko, Jorge Ivan. "Foreign exchange market organization in selected developing and transition economies: Evidence from a survey". IMF Working Papers 04/4, International Monetary Fund, 2004. URL <http://ideas.repec.org/p/imf/imfwpa/04-4.html>.
- [211] Carlson, John A. "Making a market in foreign exchange". Working paper, Purdue University, 2005.
- [212] Carlson, John A., Christian Dahl, and Carol L. Osler. "Short-run exchange-rate dynamics: Theory and evidence". Research Paper 2008-1, CREATES, 2008. URL <http://ssrn.com/abstract=1148125>.

ANNOTATION: Presented at 1st Annual CB Workshop (BI/NB 05).

- [213] Carpenter, Andrew and Jianxin Wang. "Sources of private information in FX trading". typescript, University of New South Wales, 2003. URL <http://www9.georgetown.edu/faculty/evansm1/NewMicro/Wangcustomerflow.doc>.
- [214] Carrera, José M., Peter F. Pope, and Stephen J. Taylor. "The determinants of trading volume: Information flow and inventory control". typescript, Banco de México, 1999.

ANNOTATION: Data: Daily Mexican Peso Inventories, order flow and volume (Carrera data set)

- [215] Cerrato, Mario, Nicholas Sarantis, and Alex Saunders. "An investigation of customer order flow in the foreign exchange market". typescript, University of Glasgow, 2009. URL [http://ideas.repec.org/p/gla/glaewp/2009\\_25.html](http://ideas.repec.org/p/gla/glaewp/2009_25.html).

ANNOTATION: Data: UBS customer order flow

- [216] Chaboud, Alain, Benjamin Chiquoine, Erik Hjalmarsen, and Clara Vega. "Rise of the machines: Algorithmic trading in the foreign exchange market". International Finance Discussion Papers 980, Federal Reserve Board, 2009. URL <http://www.federalreserve.gov/pubs/ifdp/2009/980/ifdp980.pdf>.
- [217] Chaboud, Alain P., Sergey V. Chernenko, , and Jonathan H. Wright. "Trading activity and exchange rates in high-frequency EBS data". International Finance Discussion Papers 903, Federal Reserve Board, 2007. URL <http://www.federalreserve.gov/pubs/ifdp/2007/903/default.htm>.

ANNOTATION: Data: EBS (Board data set)

- [218] Chaboud, Alain P., Sergey V. Chernenko, Edward Howorka, Raj S. Krishnasami Iyer, David Liu, and Jonathan H. Wright. "The high-frequency effects of U.S. macroeconomic data releases on prices and trading activity in the global inter-dealer foreign exchange market". International Finance Discussion Papers 823, Federal Reserve Board, 2004. URL <http://www.federalreserve.gov/pubs/ifdp/2004/823/default.htm>.

ANNOTATION: Data: EBS (Board data set)

- [219] Chen, Long and Kate Phylaktis. "Do top trading banks in foreign exchange business know more?" Working paper series, Cass Business School, 2007. URL <http://ssrn.com/paper=965813>.
- [220] Chen, Long and Kate Phylaktis. "Asymmetric information, price discovery and macroeconomic announcements in FX market: Do top trading banks know more?" Working paper, Cass Business School, 2008. URL <http://ssrn.com/paper=1157058>.
- [221] Cheung, Yin-Wong and Menzie D. Chinn. "Macroeconomic implications of the beliefs and behavior of foreign exchange traders". Working Paper 7417, National Bureau of Economic Research, 1999. URL <http://www.nber.org/papers/w7417>.

ANNOTATION: Questionnaire survey

- [222] Cheung, Yin-Wong and Menzie D. Chinn. "Traders, market microstructure and exchange rate dynamics". Working Paper 7416, National Bureau of Economic Research, 1999. URL <http://www.nber.org/papers/w7416>.

ANNOTATION: Questionnaire survey

- [223] Chinn, Menzie D. and Michael J. Moore. "Private information and a macro model of exchange rates: Evidence from a novel data set". Working Paper 14175, National Bureau of Economic Research, 2008. URL <http://www.nber.org/papers/w14175>.
- [224] Christiansen, Charlotte, Angelo Ranaldo, and Paul Söderlind. "The time-varying systematic risk of carry trade strategies". typescript, Swiss National Bank, 2009.
- [225] Coffey, Niall, Warren Hrungr, Hoai-Luu Nguyen, and Asani Sarkar. "Credit risk, liquidity risk and deviations from covered interest rate parity". typescript, Federal Reserve Bank of New York, 2009.
- [226] Daniélsson, Jón, Jinhui Luo, and Richard Payne. "Exchange rate determination and inter-market order flow effects". typescript, London School of Economics, 2002. URL <http://www.riskresearch.org>.

ANNOTATION: Data: D2000-2 (LSE 1-week data set)

- [227] Daníelsson, Jón and Richard Payne. "Liquidity determination in an order driven market". typescript, London School of Economics, FMG, 2002. URL <http://www.riskresearch.org>.

ANNOTATION: Data: D2000-2 (LSE 1-week data set)

- [228] de Jong, Frank, Roland Mahieu, Peter Schotman, and Irma Van Leeuwen. "Price discovery on foreign exchange markets with differentially informed traders". typescript, Tilburg University, 1999. URL <http://center.uvt.nl/staff/dejong/preprints/paperjms1.pdf>.
- [229] Derviz, Alexis. "Continuous time decision-making in a partially decentralized multiple dealership forex market, and the equilibrium exchange rate". typescript, Czech National Bank, 2001.
- [230] Derviz, Alexis. "Modeling electronic FX brokerage as a fast order-driven market under heterogeneous private values and information". Working Papers IES 2007/16, Charles University Prague, 2007. URL [http://ideas.repec.org/p/fau/wpaper/wp2007\\_16.html](http://ideas.repec.org/p/fau/wpaper/wp2007_16.html).
- [231] Ding, Liang and Jonas Hiltrop. "The electronic trading systems and bid-ask spreads in the foreign exchange market". Working paper, Macalester College, 2009.
- [232] D'Souza, Chris. "How do canadian banks that deal in foreign exchange hedge their exposure to risk?" Working Paper 2002-34, Bank of Canada, 2002. URL <http://www.bankofcanada.ca/en/res/wp/2002/wp02-34.html>.
- [233] D'Souza, Chris. "A market microstructure analysis of foreign exchange intervention in canada". Working Paper 2002-16, Bank of Canada, 2002. URL <http://www.bankofcanada.ca/en/res/wp/2002/wp02-16.html>.
- [234] Dupuis, A., J.B. Glattfelder, T. Bisig, and R.B. Olsen. "Measuring fx market events: Intrinsic time, scaling laws and market quakes". typescript, Olsen Ltd., 2009.
- [235] Evans, Martin D. D. "The microstructure of foreign exchange dynamics". typescript, Georgetown University, 1998.

ANNOTATION: Data: D2000-1 (4 months, 1996)

- [236] Evans, Martin D. D. "What are the origins of foreign exchange movements?" typescript, Georgetown University, 1999.

ANNOTATION: Data: D2000-1 (4 months, 1996)

- [237] Evans, Martin D. D. and Richard K. Lyons. "Portfolio balance, price impact, and secret intervention". Working Paper 8356, National Bureau of Economic Research, 2001. URL <http://www.nber.org/papers/w8356>. Intervention.pdf.

ANNOTATION: Data: D2000-1 (4 months, 1996).

- [238] Evans, Martin D. D. and Richard K. Lyons. "Exchange rate fundamentals and order flow". Working Paper 13151, National Bureau of Economic Research, 2007. URL <http://www.nber.org/papers/w13151>.

ANNOTATION: Data: CitiBank customer order flow. Presented at 1st Annual CB Workshop (BI/NB 05).

- [239] Evans, Martin D.D. and Richard K. Lyons. "A new micro model of exchange rate dynamics". Working Paper 10379, National Bureau of Economic Research, 2004. URL <http://www.nber.org/papers/w10379>.

ANNOTATION: Presented at SIFR 03

- [240] Froot, Kenneth A. and Jessica D. Tjornhom. "Decomposing the persistence of international equity flows". Working Paper 9079, National Bureau of Economic Research, 2002. URL <http://www.nber.org/papers/w9079>.

ANNOTATION: Data: StateStreet (7 years)

- [241] Galati, Gabriele. "Trading volumes, volatility and spreads in foreign exchange markets: Evidence from emerging market countries". Working Paper 93, BIS, 2000. URL <http://www.bis.org/publ/work93.pdf>.

- [242] Gencay, Ramazan and Nikola Gradojevic. "Informed trading in electronic foreign exchange market". typescript, Lakehead University, 2009. URL <http://ssrn.com/abstract=1263341>.

- [243] Gencay, Ramazan, Nikola Gradojevic, and Faruk Selcuk. "When do informed traders arrive in foreign exchange markets?" typescript, Lakehead University, 2008. URL <http://ssrn.com/abstract=1071343>.

- [244] Gereben, Áron, György Gyomai, and Norbert Kiss. "Customer order flow, information and liquidity on the hungarian foreign exchange market". Working Paper 8, Magyar Nemzeti Bank, 2006. URL [http://english.mnb.hu/Engine.aspx?page=mnb\\_mnb\\_fuzetek&ContentID=8871](http://english.mnb.hu/Engine.aspx?page=mnb_mnb_fuzetek&ContentID=8871).

ANNOTATION: Data: Bank of Hungary customer flows. Presented at 2nd Annual CB Workshop (BoC/NB 06)

- [245] Girardin, Eric and Richard K. Lyons. "Does intervention alter private behavior?" typescript, UC Berkeley, 2007.

ANNOTATION: Data: CitiBank customer order flow. Presented at MNB 07

- [246] Gradojevic, Nikola and Christopher J. Neely. "The dynamic interaction of order flows and the CAD/USD exchange rate". Working Paper 2008-006A, Federal Reserve St. Louis, 2008. URL <http://research.stlouisfed.org/wp/more/2008-006/>.

- [247] Griffoli, Tommaso Mancini and Angelo Ranaldo. "Deviations from covered interest parity during the crisis; a story of funding liquidity constraints". typescript, Swiss National Bank, 2009.
- [248] Hau, Harald. "The exchange rate effect of multi-currency risk arbitrage". typescript, INSEAD, 2009.
- [249] Hau, Harald, Massimo Massa, and Joel Peress. "Do demand curves for currencies slope down? evidence from the MSCI global index change". Discussion Paper 4862, CEPR, 2005. URL <http://www.cepr.org/pubs/dps/DP4862.asp>.
- [250] Ito, Takatoshi and Yuko Hashimoto. "Microstructure of the yen/dollar foreign exchange market: Patterns of intra-day activity revealed in the electronic broking system". Working Paper 10856, National Bureau of Economic Research, 2004. URL <http://www.nber.org/papers/w10856>.

ANNOTATION: Data: EBS

- [251] Ito, Takatoshi and Yuko Hashimoto. "Price impacts of deals and predictability of the exchange rate movements". Working Paper 12682, National Bureau of Economic Research, 2006. URL <http://www.nber.org/papers/w12682>.

ANNOTATION: Data: EBS

- [252] Jylhä, Petri and Matti Suominen. "Arbitrage capital and currency carry trade returns". typescript, Helsinki School of Economics, 2009.
- [253] Kim, Woochan and Shang-Jin Wei. "Foreign portfolio investors before and during a crisis". Working Paper 6968, National Bureau of Economic Research, 1999. URL <http://www.nber.org/papers/w6968>.

ANNOTATION: Data: US Treasury

- [254] Lechner, Sandra and Ingmar Nolte. "Customer trading in the foreign exchange market. empirical evidence from an internet trading platform". Working paper, University of Konstanz, 2005. URL <http://ssrn.com/abstract=908255>.

ANNOTATION: Data: OANDA customer flows

- [255] Lo, Ingrid and Stephen G. Sapp. "Order submission: The choice between limit and market orders". Working Paper 2005-42, Bank of Canada, 2005. URL <http://www.bankofcanada.ca/en/res/wp/2005/wp05-42.html>.
- [256] Lo, Ingrid and Stephen G. Sapp. "Price aggressiveness and quantity: How are they determined in a limit order market?" Working paper, Bank of Canada, 2006.

ANNOTATION: Data: The LSE D2000-2 99-00 data set. Presented at the 1st Annual CB Workshop (BI/NB 05)

[257] Lo, Ingrid and Stephen G. Sapp. "A structural error-correction model of best prices and depths in the foreign exchange limit order market". Working Paper 2006-8, Bank of Canada, 2006. URL <http://www.bankofcanada.ca/en/res/wp/2006/wp06-8.html>.

ANNOTATION: Data: D2000-2 (LSE 99-00 data set)

[258] Lo, Ingrid and Stephen G. Sapp. "Order aggressiveness and quantity: How are they determined in a limit order market?" Working Paper 2007-23, Bank of Canada, 2007. URL <http://www.bankofcanada.ca/en/res/wp/2007/wp07-23.html>.

[259] Mancini, Lorian, Angelo Ranaldo, and Jan Wrampelmeyer. "Liquidity in the foreign exchange market: Measurement, commonality, and risk premiums". typescript, Swiss National Bank, 2009. URL <http://ssrn.com/paper=1447869>.

[260] Marsh, Ian W. and Teng Miao. "Informational linkage between fx and stock markets: Impacts of FX order flows on stock market". typescript, Cass Business School, 2009.

[261] Marsh, Ian W. and Ceire O'Rourke. "Customer order flow and exchange rate movements: Is there really information content?" Working paper, Cass Business School, 2005. URL <http://ssrn.com/abstract=704944>.

ANNOTATION: Data: RBS data. Presented at 1st Annual CB Workshop (BI/NB 05).

[262] Marshall, Ben R., Sirimon Treepongkaruna, and Martin R. Young. "What level of compensation is available to arbitrageurs in the foreign exchange market?" Working paper, Massey University, 2008. URL <http://ssrn.com/abstract=970410>.

[263] McGroarty, Frank, Owain ap Gwilym, and Stephen Thomas. "Private information and excess volatility in the spot foreign exchange market: An intraday empirical perspective". Discussion Paper CCR-05-07, University of Southampton, 2005. URL <http://www.management.soton.ac.uk/research/publications/documents/CCR-05-07.pdf>.

[264] Medeiros, Otavio R. De. "Exchange rate and market microstructure in brazil". mimeo., University of Brasilia, 2005. URL [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=700881](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=700881).

[265] Melvin, Michael and Lin Wen. "The choice of direct dealing or electronic brokerage in foreign exchange trading". typescript, Arizona State University, 2003.

ANNOTATION: Presented at SIFR 03

[266] Mende, Alexander and Lukas Menkhoff. "Different counterparties, different foreign exchange trading? The perspective of a median bank". Typescript, University of Hannover, 2003.

ANNOTATION: Data: The Menkhoff-dealer. Presented at SIFR 03

[267] Menkhoff, Lukas, Carol L. Osler, and Maik Schmeling. "Order-choice dynamics under asymmetric information: An empirical analysis". typescript, University of Hannover, 2009.

[268] Menkhoff, Lukas and Maik Schmeling. "Learning from post-trade identity disclosure in electronic trading". typescript, Hannover University, 2009. URL <http://ssrn.com/abstract=1370244>.

ANNOTATION: Presented at the 4th Annual CB Workshop (BIS/HKMA 08)

[269] Moore, Michael J. and Richard Payne. "Size, specialism and the nature of informational advantage in inter-dealer foreign exchange trading". Working paper, Queens University Belfast, 2009.

[270] Onur, Esen. "A dynamic model of the foreign exchange market". typescript, UC Davis, 2007.

[271] Onur, Esen. "The role of asymmetric information among investors in the foreign exchange market". typescript, UC Davis, 2007.

[272] Onur, Esen. "The role of customer heterogeneity in the nis/dollar market: Evidence from market-wide data". typescript, UC Davis, 2007.

[273] Osler, Carol L., Alexander Mende, and Lukas Menkhoff. "Price discovery in currency markets". Working paper, Brandeis, 2007. URL <http://ideas.repec.org/p/han/dpaper/dp-351.html>.

ANNOTATION: Presented at BoC/NB 06. Previously "Asymmetric Information and Currency Spreads"

[274] Osler, Carol L. and Tanseli Savaser. "The microstructure of exchange rate instability". typescript, Brandeis University, 2007.

ANNOTATION: Data: Royal Bank of Scotland price-contingent orders. Presented at MNB 07

[275] Osler, Carol L. and Vitaliy Vandrovych. "Hedge funds and the origins of private information in currency markets". typescript, Brandeis University, 2009.

[276] Osler, Carol L. and Rimma Yusim. "Intraday dynamics of foreign-exchange spreads". typescript, Brandeis University, 2009.

[277] Pasquariello, Paolo. "The microstructure of currency markets: An empirical model of intra-day return and bid-ask spread behavior". typescript, University of Michigan, 2001. doi:10.2139/ssrn.252510.

[278] Payne, Richard. "Announcement effects and seasonality in the intra-day foreign exchange market". typescript, London School of Economics, FMG, 1996.

- [279] Payne, Richard and Jon Danielsson. "Measuring and explaining liquidity on an electronic limit order book: Evidence from Reuters D2000-2". typescript, London School of Economics, FMG, 2001. URL <http://www.riskresearch.org>.
- [280] Phylaktis, Kate and Long Chen. "Macroeconomic announcements and private information in the foreign exchange market". Tech. rep., Cass Business School, 2005.
- [281] Ramadorai, Tarun. "Persistence, performance, and prices in foreign exchange markets". typescript, Oxford University, 2006.
- [282] Ranaldo, Angelo and Paul Söderlind. "Safe haven currencies". Discussion Paper 2007-22, University of St. Gallen, 2007. URL <http://ssrn.com/abstract=999382>.
- [283] Reitz, Stefan, Markus A. Schmidt, and Mark P. Taylor. "End-user order flow and exchange rate dynamics". Discussion Paper Series 1: Economic Studies 05/2007, Deutsche Bundesbank, 2007.
- [284] Reitz, Stefan, Markus A. Schmidt, and Mark P. Taylor. "Financial intermediation and the role of price discrimination in a two-tier market". typescript, Deutsche Bundesbank, 2008.
- [285] Rime, Dagfinn. "Private or public information in foreign exchange markets? an empirical analysis". Memorandum 14/2000, Department of Economics, University of Oslo, Oslo, Norway, 2000.

ANNOTATION: Data: Norges Bank data set

- [286] Rime, Dagfinn. "U.S. exchange rates and currency flows". Working Paper 4, Stockholm Institute for Financial Research, Stockholm, Sweden, 2001.

ANNOTATION: Data: US Treasury data set

- [287] Romeu, Rafael. "An intraday pricing model of foreign exchange markets". Working Paper 03/115, IMF, 2003. URL <http://ssrn.com/abstract=879191>.
- [288] Romeu, Rafael. "A puzzle of microstructure market maker models". Working Paper 04/6, IMF, 2004. URL <http://ssrn.com/paper=878829>.
- [289] Rosenberg, Joshua V. and Leah G. Traub. "Price discovery in the foreign currency futures and spot market". Staff Report 262, Federal Reserve Bank of New York, 2006. URL [http://www.newyorkfed.org/research/staff\\_reports/sr262.html](http://www.newyorkfed.org/research/staff_reports/sr262.html).
- [290] Rzepkowski, Bronka. "Order flows, delta hedging and exchange rate dynamics". Working Paper 18, CEPII, 2003. URL <http://EconPapers.repec.org/RePEc:cii:cepidt:2003-18>.

- [291] Savaser, Tanseli. "Exchange rate response to macro news: Through the lens of microstructure". typescript, Brandeis, 2006.

ANNOTATION: Presented at BoC/NB 06

- [292] Siourounis, Gregorios. "Capital flows and exchange rates an empirical analysis". Working Paper 00028, University of Peloponnese, 2008. URL <http://ideas.repec.org/p/uop/wpaper/00028.html>.

- [293] Smyth, Nick. "Order flow and the exchange rate changes: A look at the NZD/USD and AUD/USD". Discussion Paper 2009/03, Reserve Bank of New Zealand, 2009. URL [http://www.rbnz.govt.nz/research/discusspapers/dp09\\_03.pdf](http://www.rbnz.govt.nz/research/discusspapers/dp09_03.pdf).

ANNOTATION: Data: 5 years of D2000-2

- [294] Vitale, Paolo. "A market microstructure analysis of foreign exchange intervention". Working Paper 5468, CEPR, 2006. URL <http://www.cepr.org/pubs/dps/DP5468.asp>.

ANNOTATION: Presented at BoC/NB 06

- [295] Vitale, Paolo. "Optimal informed trading in the foreign exchange market". Discussion Paper 6553, CEPR, 2007. URL <http://www.cepr.org/pubs/dps/DP6553.asp>.

ANNOTATION: Theory-model based on Bacchetta and van Wincoop (AER, 2006)

- [296] Wada, Ryosuke. "Stochastic structure of brokered foreign exchange auctions". typescript, Otaru University of Commerce, 2005. URL <http://ssrn.com/abstract=687642>.

- [297] Wei, Shang-Jin and Jungshik Kim. "The big players in the foreign exchange market: Do they trade on information or noise". Working Paper 6256, National Bureau of Economic Research, 1997. URL <http://www.nber.org/papers/w6256>.

ANNOTATION: Data: US Treasury data set

- [298] Wu, Thomas. "Order flow in the south: Anatomy of the brazilian FX market". typescript, UC Santa Cruz, 2007. URL <http://people.ucsc.edu/~thomaswu/Research/orderflow.pdf>.

- [299] Yao, Jian M. "Market making the interbank foreign exchange market". Working Paper S-98-3, Stern School of Business, N.Y.U, 1998.

ANNOTATION: Data: Yao dealer (all trades, inventories)

- [300] Yao, Jian M. "Spread components and dealer profits in the interbank foreign exchange market". Working Paper S-98-4, Stern School of Business, N.Y.U, 1998.

ANNOTATION: Data: Yao dealer (all trades, inventories)

### 3 Books, articles, PhD dissertations, etc.

- [301] Bingham, T. R. G. "Foreign exchange markets". In Newman et al. [335], 154–57.

ANNOTATION: An overview of functioning of FX markets.

- [302] BIS (ed.). *Electronic Finance: A New Perspective and Challenges*. No. 7 in BIS Papers. Bank for International Settlements, Basel, 2001. URL <http://www.bis.org/publ/bispap07.htm>.

- [303] BIS (ed.). *Market Liquidity: Proceedings of a Workshop Held at the BIS*. No. 2 in BIS Papers. Bank for International Settlements, Basel, 2001. URL <http://www.bis.org/publ/bispap02.htm>.

- [304] BIS (ed.). *Market Functioning and Central Bank Policy*. No. 12 in BIS Papers. Bank for International Settlements, Basel, 2002. URL <http://www.bis.org/publ/bispap12.htm>.

- [305] BIS. *Triennial Central Bank Survey of Foreign Exchange and Derivative Market Activity in 2007*. Bank for International Settlements, Basel, 2007. URL <http://www.bis.org/triennial.htm>.

ANNOTATION: Every three years, in april, the BIS coordinates a global central bank survey of foreign exchange and derivatives market activity. In March 1986 the central banks BoE, Fed, BoJ and BoC conducted surveys of their respective markets. Since 1989, the BIS has conducted the survey with a much wider coverage every third year, and the full report is published the year after. The first (1989) was called "Survey of Foreign Exchange Market Activity". From 1992 until 1998 the survey was called (a variant of) "Central Bank Survey of Foreign Exchange and Derivative Market Activity in April 199?". Since 2002 the survey is named "Triennial Central Bank Survey of Foreign Exchange and Derivative Market Activity in 200?". The first three surveys were limited to the foreign exchange markets (1989, 1992, 1995). Subsequently both the foreign exchange and the derivatives markets have been surveyed (1998, 2001, 2004, 2007). For the survey, each participating central bank collects data from the banks and dealers in its jurisdiction and calculates aggregate national data. These are provided to the BIS, which compiles global aggregates. See link for more information. See also the summary papers by Galati.

- [306] Bjønnes, Geir H., Dagfinn Rime, and Haakon O. Aa. Solheim. "The role of foreign speculators in speculative attacks: The case of 1998". In Sandrine Lardic and Valérie Mignon (eds.), "Recent Developments on Exchange Rates", Palgrave, 2004.

ANNOTATION: Data: Norges Bank and Sveriges Riksbank data set

- [307] Bjønnes, Geir H., Dagfinn Rime, and Haakon O. Aa. Solheim. "Volume and volatility in the FX market: Does it matter who you are?" In Grauwe [325]. URL <http://mitpress.mit.edu/catalog/item/default.asp?sid=41716BD0-715F-4656-B26E-39B18B717ED2&ttype=2&tid=10519>.

ANNOTATION: Data: The Riksbank data

- [308] Blume, Lawrence and Steven Durlauf (eds.). *The New Palgrave Dictionary of Economics*. Palgrave Macmillan, 2nd ed., 2008.
- [309] Chaboud, Alain and Steven Weinberg. "Foreign exchange markets in the 1990s: Intraday market volatility and the growth of electronic trading". In BIS [304], 138–47. URL <http://www.bis.org/publ/bispap12.htm>.
- [310] Cheung, Yin-Wong and Clement Yuk-Pang Wong. "Foreign exchange traders in Hong Kong, Tokyo, and Singapore. a survey study". In T. Bos and T. A. Fetherston (eds.), "Advances in Pacific Basin Financial Markets", , vol. 5111–134. Elsevier, 1999.

ANNOTATION: Questionnaire survey. See also Cheung, Chinn and Marsh (2004, IJFE), Cheung and Wong (2000, JIE), and Cheung and Chinn (2001, JIMF).

- [311] Covrig, Vicentiu. *Asymmetric Information and Foreign Exchange Market Microstructure*. Ph.D. thesis, Arizona State University, 1999.
- [312] de Cecco, Marcello. "Foreign exchange markets: History". In Newman et al. [335], 157–59.
- [313] de Cecco, Marcello. "Genoese exchange fairs". In Newman et al. [335], 221–22.

ANNOTATION: Nice overview on how currency trading were conducted in the old days.

- [314] Domowitz, Ian. "Automated trade execution". In Newman et al. [335].
- [315] Evans, Martin D. D. "Foreign exchange market microstructure". In Blume and Durlauf [308]. doi:10.1057/9780230226203.0595.

ANNOTATION: Survey

- [316] Evans, Martin D. D. *Foundations of Foreign Exchange*. Princeton Series in International Finance. Princeton University Press, 2009. URL <http://www9.georgetown.edu/faculty/evansm1/book/outline.htm>.
- [317] Evans, Martin D.D. "Understanding exchange rates: A micro-based perspective on the importance of fundamentals". In Liebscher et al. [331]. URL [http://www9.georgetown.edu/faculty/evansm1/wpapers\\_files/undersandingFXd1.pdf](http://www9.georgetown.edu/faculty/evansm1/wpapers_files/undersandingFXd1.pdf).

- [318] Evans, Martin D.D. and Richard K. Lyons. "Are different-currency assets imperfect substitutes?" In Grauwe [325]. URL <http://mitpress.mit.edu/catalog/item/default.asp?sid=41716BD0-715F-4656-B26E-39B18B717ED2&ttype=2&tid=10519>.

ANNOTATION: Data: D2000-1 (4 months, 1996)

- [319] Fan, Mintao and Richard K. Lyons. "Customer trades and extreme events in foreign exchange". In Paul Mizen (ed.), "Monetary History, Exchange Rates and Financial Markets: Essays in Honor of Charles Goodhart", 160–179. Edward Elgar, Northampton, MA, 2003.

ANNOTATION: Data: CitiBank customer order flow. First published paper on these data(?)

- [320] Frankel, Jeffrey. "How well do markets work: Might a Tobin tax help?" In Haq et al. [326].

ANNOTATION: Nice discussion on how markets work.

- [321] Frankel, Jeffrey A., Giampaolo Galli, and Alberto Giovannini (eds.). *The Microstructure of Foreign Exchange Markets*. University of Chicago Press, Chicago, 1996. URL <http://www.press.uchicago.edu/cgi-bin/hfs.cgi/00/13113.ct1>.

ANNOTATION: Papers from a NBER conference

- [322] Gereben, Aron. "Using the microstructure approach to foreign exchange markets at a central bank". In Liebscher et al. [331].

- [323] Goodhart, Charles A. E., Takatoshi Ito, and Richard Payne. "One day in June 1993: A study of the working of the Reuters 2000-2 electronic foreign exchange trading system". In Frankel et al. [321], 107–79. URL <http://www.press.uchicago.edu/cgi-bin/hfs.cgi/00/13113.ct1>.

ANNOTATION: Data: D2000-2 (LSE one-day data). First study of electronic brokers in FX

- [324] Goodhart, Charles A. E. and Richard Payne (eds.). *The Foreign Exchange Market. Empirical Studies with High-Frequency Data*. Macmillan, London, 2000.

ANNOTATION: Collection of Goodhart's papers

- [325] Grauwe, Paul De (ed.). *Exchange Rate Modelling: Where Do We Stand?* MIT Press, 2005. URL <http://mitpress.mit.edu/catalog/item/default.asp?sid=41716BD0-715F-4656-B26E-39B18B717ED2&ttype=2&tid=10519>.

- [326] Haq, Mahbub Ul, Inge Kaul, and Isabelle Grunberg (eds.). *The Tobin Tax: Coping with Financial Volatility*. Oxford University Press, Oxford, 1996.

- [327] Hartmann, Philipp. *Currency Competition and Foreign Exchange Markets. The Dollar, the Yen and the Euro*. Cambridge University Press, Cambridge, 2000. doi:10.2277/0521632730.

- [328] Heere, Everdine M. *Microstructure Theory Applied to the Foreign Exchange Market*. Master's thesis, Maastricht University, Amsterdam, 1999.

ANNOTATION: Interviews with dealers in ch. 6.

- [329] Hsieh, David A. and Allan W. Kleidon. "Bid-ask spreads in foreign exchange markets: Implications for models of asymmetric information". In Frankel et al. [321], 41–65. URL <http://www.press.uchicago.edu/cgi-bin/hfs.cgi/00/13113.ct1>.

ANNOTATION: Papers from a NBER conference

- [330] Jorion, Phillippe. "Risk and turnover in the foreign exchange market". In Frankel et al. [321], 19–37. URL <http://www.press.uchicago.edu/cgi-bin/hfs.cgi/00/13113.ct1>.

ANNOTATION: Papers from a NBER conference

- [331] Liebscher, Klaus, Josef Christl, Peter Mooslechner, and Doris Ritzberger-Grünwald (eds.). *Currency and Competitiveness in Europe*. Edward Elgar, 2008.

- [332] Love, Ryan. *A Microstructural Analysis of the Effects of News on Order Flow and on Price Discovery in Foreign Exchange Markets*. Ph.D. thesis, London School of Economics, 2005.

- [333] Lyons, Richard K. "Foreign exchange volume: Sound and fury signifying nothing?" In Frankel et al. [321], 183–201. URL <http://www.press.uchicago.edu/cgi-bin/hfs.cgi/00/13113.ct1>.

ANNOTATION: Data: Lyons' dealer (D2000-1, broker-traders, inventories, 1992)

- [334] Lyons, Richard K. *The Microstructure Approach to Exchange Rates*. MIT Press, Cambridge, MA, 2001. URL <http://mitpress.mit.edu/catalog/item/default.asp?ttype=2&tid=10838>.

- [335] Newman, Peter, Murray Milgate, and John Eatwell (eds.). *The New Palgrave Dictionary of Money & Finance*. Macmillan Press, London, 1992.

- [336] Osler, Carol L. "Foreign exchange microstructure: A survey". In Robert A. Meyers (ed.), "Encyclopedia of Complexity and System Science", Springer, 2008. Forthcoming.

ANNOTATION: Survey

- [337] Perraudin, William and Paolo Vitale. "Interdealer trade and information flows in a decentralized foreign exchange market". In Frankel et al. [321], 73–98. URL <http://www.press.uchicago.edu/cgi-bin/hfs.cgi/00/13113.ct1>.

ANNOTATION: Papers from a NBER conference

[338] Rime, Dagfinn. *Trading in Foreign Exchange Markets*. Ph.D dissertation, Norwegian School of Management, Norway, 2001.

[339] Rime, Dagfinn. "New electronic trading systems in the foreign exchange markets". In Derek C. Jones (ed.), "New Economy Handbook", chap. 21, 471–504. Academic Press, San Diego, 2003. URL <http://www1.elsevier.com/homepage/sae/neh/index.htm>.

ANNOTATION: Survey, with a special focus on electronic trading systems.

[340] Sarno, Lucio and Mark P. Taylor. *The microstructure of the foreign-exchange market: A selective survey of the literature*. No. 89 in Princeton Studies in International Economics. Princeton University, 2001.

ANNOTATION: Survey

[341] Sarno, Lucio and Mark P. Taylor. *Economics of Exchange Rates*. Cambridge University Press, Cambridge, 2003. doi:10.2277/0521485843.

ANNOTATION: Chapter on FX microstructure.

[342] Scalia, Antonio. "How do central banks and FX traders interact?" In Liebscher et al. [331].

[343] Solheim, Haakon O. Aa. *Essays on Volatility in the Foreign Exchange Market*. Ph.D dissertation, Norwegian School of Management, Norway, 2004.

[344] Suvanto, Antti. *Foreign Exchange Dealing. Essays on the Microstructure of the Foreign Exchange Market*. Ph.D. thesis, ETLA, The Research Institute of the Finnish Economy, Helsinki, 1993.

ANNOTATION: Among the first to apply microstructure tools to FX!

[345] Tien, David. "Hedging demand and foreign exchange risk premia". In "Risk measurement and systemic risk", Proceedings of the Third Joint Central Bank Research Conference (CFGS), 140–158. BIS, 2002. URL <http://www.biz.org/cgfs/conf/mar02k.pdf>.