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Referências Bibliográficas

ANDERSEN, T., BOLLERSLEV, T., Answering the skeptics: Yes, standard volatility models do provide accurate forecasts, **International Economic Review**, v. 39, n. 4, p. 885–905, 1998.

AVRAMOV, D., CHORDIA, T., GOYAL, A., The impact of trades on daily volatility, **Review of Financial Studies**, v. 19, n. 4, p. 1241-1277, 2006.

BANZ, R. F., The relationship between return and market value of common stocks, **Journal of Financial Economics**, v. 9, n. 1, p. 3-18, 1981.

BLACK, F., Studies in stock price volatility changes, **Proceedings of the American Statistical Association**, Business and Economic Statistics Section, p. 177–181, 1976.

BOLERSLEV, T., Generalized Autoregressive Conditional Heteroscedasticity, **Journal of Econometrics**, v. 31, n. 3, p.307-327, 1986.

BOYER, B., MITTON, T., VORKINK, K., Expected Idiosyncratic Skewness, **Review of Financial Studies Advance Access**, v. 23, n.1, p. 169-202, 2010.

CAMPBELL, J. Y., GROSSMAN, S. J., WANG, J., Trading Volume and Serial Correlation in Stock Returns, **Quarterly Journal of Economics**, v. 108, n. 4, p.905-939, 1993.

CAMPBELL, J. Y., LO, A. W., MACKINLAY, A. C., **The Econometrics of Financial Markets**, Princeton University Press, 1997.

CHAE, J., Trading Volume, Information Asymmetry, and Timing Information, **Journal of Finance**, v. 60, n. 1, p. 413-442, 2005.

CHEN, H., Singal, V., All things considered, taxes drive the January Effect, **Journal of Financial Research**, v. 27, n. 3, p. 351-372, 2004.

CHEN, J., HONG, H., STEIN, J. C., Forecasting crashes: trading volume, past returns, and conditional skewness in stock prices, **Journal of Financial Economics**, v. 61, n. 3, p. 345-381, 2001.

CHUNG, Y. P., JOHNSON, H., SCHILL, M. J., Asset Pricing When Returns Are Nonnormal: Fama-French Factors versus Higher-Order Systematic Comoments, **Journal of Business**, v. 79, n. 2, p. 923-940, 2006.

COCHRANE, J. H., **Asset Pricing** (2nd edition), Princeton, University Press, 2005.

CORSI, F., A simple aspproximate long-memory model of realized volatility, **Journal of Financial Econometrics**, v. 7, n. 2, p. 174–196, 2009.

DE BONDT, W. F. M., THALER, R., Does the stock market overreact, **Journal of Finance**, v. 40, n. 3, p. 793-805, 1985.

____, Further evidence on investors overreaction and stock market seasonality, **Journal of Finance**, v. 42, n. 3, p. 557-581, 1987.

DELONG, J. B., SHLEIFER, A., SUMMERS, L. H., WALDMANN, R. J., Noise trader risk in financial market, **Journal of Political Economy**, v. 98, n. 4, p. 703-738, 1990.

ENDERS, W., **Applied Econometric Time Series** (2nd edition), Wiley, 2004.

ENGLE, R. F., Autoregressive conditional heteroskedasticity with estimates of the variance of U.K. inflation, **Econometrica**, v. 50, n. 4, p.987-1008, 1982.

EPPS, T. W., EPPS, M. L., The Stochastic Dependence of Security Price Changes and Transaction Volumes: Implications for the Mixture-of-Distributions Hypothesis, **Econometrica**, v. 44, n. 2, p. 305-321, 1976.

FAMA, E. F., Efficient capital markets: a review of theory and empirical work, **Journal of Finance**, v. 25, n. 2, p. 383-417, 1970.

____, Efficient capital markets II, **Journal of Finance**, v. 46, n. 5, p. 1575-1617, 1991.

FAMA, E., FRENCH, K., The cross-section of expected stock returns, **Journal of Finance**, v. 47, n. 2, p. 427–465, 1992.

____, Common risk factors in the returns on stocks and bonds, **Journal of Financial Economics**, v. 33, n. 1, p. 3-56, 1993.

____, Multifactor explanation of asset pricing anomalies, **Journal of Finance**, v. 51, n. 1, p. 55-84, 1996.

FRAZZINI, A., The Disposition Effect and Underreaction to News, **Journal of Finance**, v. 61, n. 4, p. 2017-2046, 2006.

FRENCH, K. R., ROLL, R., Stock Return Variances: The Arrival of Information and the Reaction of Traders, **Journal of Financial Economics**, v. 17, n. 1, p. 5–26, 1986.

GERVAIS, S., KANIEL, R., AND MINGELGRIN, D. H., The high-volume return premium, **The Journal of Finance**, v. 56, n. 3, p. 877-919, 2001.

GLOSTEN, L. R., MILGROM, P. R., Bid, ask, and transaction prices in a specialist market with heterogeneously informed traders, **Journal of Financial Economics**, v. 14, n. 1, p. 71-100, 1985.

GRINBLATT, M., HAN, B., Prospect theory, mental accounting, and momentum, **Journal of Financial Economics**, v. 78, n. 2, p. 311–339, 2005.

GROSSMAN, S. J., STIGLITZ, J. E., On the impossibility of informationally efficient markets, **American Economic Review**, v. 70, n. 3, p. 393-408, 1980.

HARRIS, M., RAVIV, A., Differences of opinion make a horse race, **Review of Financial Studies**, v. 6, n. 3, p. 473–506, 1993.

HARVEY, C. R., SIDDIQUE, A., Conditional Skewness in Asset Pricing Tests, **Journal of Finance**, v. 55, n. 3, p. 1263-1295, 2000.

HONG, H., STEIN, J. C., Disagreement and the Stock Market, **Journal of Economic Perspectives**, v. 21, n. 2, p. 109-128, 2007.

JAGANNATHAN, R., WANG, W., The conditional CAPM and the cross-section of stock returns, **Journal of Finance**, v. 51, n. 1, p. 3–53, 1996.

JEGADEESH, N. TITMAN, S., 1993, Returns to buying winners and selling losers: Implications for stock market efficiency, **Journal of Finance**, v. 48, n. 1, 65-91.

KAHNEMAN, D., TVERSKY, A., Prospect Theory: An analysis of decision under risk, **Econometrica**, v. 47, n. 2, p. 263-291, 1979.

KARPOFF, J. M., The relations between price changes and trading volume: a survey, **Journal of Financial and Quantitative Analysis**, v. 22, n. 1, p.109-126, 1987.

KRAUS, A., LITZENBERGER, J., Skewness preference and the valuation of risk assets, **Journal of Finance**, v. 31, n. 4, p. 1085-1100, 1976.

KYLE, A. S., Continuous auction and insider trading, **Econometrica**, v. 53, n. 6, p. 1315-1336, 1985.

LAKONISHOK, J., SHLEIFER, A., VISHNY, R.W., Contrarian investment, extrapolation, and risk, **Journal of Finance**, v. 49, n. 5, p. 1541-1578, 1994.

LEWELLEN, J., NAGEL, S., The conditional CAPM does not explain asset-pricing anomalies, **Journal of Financial Economics**, v. 82, n. 2, p. 289-314, 2006.

LLORENTE, G., MICHAELY, R., SAAR, G., WANG, J., Dynamic volume-return relation of individual stocks, **Review of Financial Studies**, v. 15, n. 4, p. 1005-1047, 2002.

LO, A. W., MACKINELY, A. C., Stock market prices do not follow random walks: evidence from a simple specification test, **Review of Financial Studies**, v. 1, n. 1, p. 41-66, 1988.

___, When are contrarian profits due to stock market overreaction?, **Review of Financial Studies**, v. 3, n. 1, p. 175-208, 1990.

NELSON, D. B., Conditional heteroskedasticity in asset returns: A new approach, **Econometrica**, v. 59, n. 2, p. 347-370, 1991.

ODEAN, T., Are investors reluctant to realize their losses?, **Journal of Finance**, v. 53, n. 5, p. 1775-1798, 1998.

PINDYCK, R. S., Risk, inflation and the stock market, **American Economic Review**, v. 74, n. 3, p. 334–351, 1984.

POON, S., GRANGER, C. W. J., Forecasting volatility in financial markets: a review, **Journal of Economic Literature**, v. 41, n. 2, p. 478-539, 2003.

PRESS, S. J., A compound events model for security prices, **Journal of Business**, v. 40, n. 3, p. 317-335, 1967.

ROLL, R., R2, **Journal of Finance**, v. 43, n. 3, p. 541–566, 1988.

ROSS, S. A., The arbitrage theory of asset pricing, **Journal of Economic Theory**, v. 13, p. 341-360, 1976.

___, Information and volatility: The no-arbitrage martingale approach to timing and resolution irrelevancy, **Journal of Finance**, v. 44, n. 1, p. 1-17, 1989.

SCHARTH, M., MEDEIROS, C. M., Asymmetric effects and long memory in volatilityof Dow Jones stocks, **International Journal of Forecasting**, v. 25, n. 2, p. 304-327, 2009.

SCHWERT, G. W., Stock volatility and the crash of '87, **Review of Financial Studies**, v. 3, n. 1, p. 77–102, 1990.

___, Anomalies and market efficiency. In: **Handbook of Economics and Finance** (Edited by G. M. Constantinides, M. Harris, and R. Stulz), Amsterdam, North-Holland, 2003.

SHEFRIN,H, STATMAN,M., The disposition to sell winners too early and ride losers too long: theory and evidence, **Journal of Finance**, v. 40, n. 3, p. 777–790, 1985.

SHILLER, R., Do Stock Prices Move Too Much to Be Justified By Subsequent Changes in Dividends?, **American Economic Review**, v. 71, n. 3, p. 421–436, 1981.

SHLEIFER, A., VISHNY, R., W., The limits of arbitrage, **Journal of Finance**, v. 52 n. 1, p. 35–55, 1997.

SINGLETON, J. C., WINGENDER, J., Skewness Persistence in Common Stock Returns, **Journal of Financial and Quantitative Analysis**, v. 21, n. 3, p. 335-341, 1986.

THALER, R., Toward a positive theory of consumer choice, **Journal of Economic Behavior and Organization**, v. 1, n. 1, p. 39–60, 1980.

WANG, J., A model of competitive stock trading volume, **Journal of Political Economy**, v. 102, n. 1, p. 127-168, 1994.

WEST, K. D., Dividend Innovations and Stock Price Volatility, **Econometrica**, v. 56, n. 1, p. 37-61, 1988.

WOOLDRIDGE, J. M., **Econometric Analysis of Cross Section and Panel Data** (1st edition), Cambridge, The MIT Press, 2002.

XU, J., Price convexity and skewness, **Journal of Finance**, v. 52, n. 5, p. 2521-2552, 2007.

ZAKOÏAN, J. M., Threshold heteroskedastic models, **Journal of Economic Dynamics and Control**, v. 18, n. 5, p. 931–955, 1994.

6
Apêndice

In Table 12 we found that mean yearly return was increasing with size, across the five size groups we formed. This is at odds with the empirical evidence first reported by Banz (1981), the so called "size effect". In Section 4.3 we argued that two reasons for this apparent contradiction we previous empirical literature were, first, that we classify size using market capitalization contemporaneous to returns, and, second, that recent empirical literature was unable to replicate the size effect.

Table 15 - Analysis of "size effect" on returns – differences in size classification

The table presents yearly returns for the sample period from January 1965 to December 2007. Only observations (stock-years) with data for all trading days in the year are considered. Mean returns are calculated by observation (stock-year) and then using all observations that fit in the size group and time period. Standard deviations are presented in parenthesis. The lines in the table correspond to different procedures to determine market capitalization, the variable used to classify stocks by size group.

Size Group	1 (small)	2	3	4	5 (big)
by mean in current year	0.001 (0.488)	0.060 (0.416)	0.083 (0.379)	0.097 (0.336)	0.107 (0.296)
by mean in previous year	0.061 (0.458)	0.070 (0.407)	0.069 (0.386)	0.076 (0.347)	0.076 (0.307)
by end of previous year	0.055 (0.483)	0.057 (0.426)	0.064 (0.393)	0.069 (0.360)	0.073 (0.313)

In Table 15 we provide support to our first argument. When we classify stocks by size based on market capitalization of previous year (either mean or year end), the difference in returns between any two size groups is reduced at least by 50%. Taking the extremes (groups 1 and 5), the difference in mean returns is reduced by more than 80%.

In Table 16 we provide empirical support to our second argument. Classifying stocks by size based on year end market capitalization of previous year, as is usual in finance literature, we show that the decrease of return with size was present only in the period before Banz (1981) report.

Table 16 - Analysis of "size effect" on returns – differences in period of analysis

The table presents yearly returns for three sample periods. Only observations (stock-years) with data for all trading days in the year are considered. Mean returns are calculated by observation (stock-year) and then using all observations that fit in the size group and time period. Standard deviations are presented in parenthesis.

Size Group	1 (small)	2	3	4	5 (big)
1965 – 1979	0.082 (0.470)	0.059 (0.447)	0.052 (0.405)	0.048 (0.367)	0.029 (0.294)
1980 – 1993	0.038 (0.544)	0.072 (0.414)	0.090 (0.372)	0.105 (0.308)	0.116 (0.260)
1994 – 2007	0.046 (0.452)	0.045 (0.424)	0.052 (0.403)	0.055 (0.387)	0.071 (0.351)