

Fundamental driver of fund style drift

Journal of Asset Management

March 2017, Volume 18, Issue 2, pp 99–123

- **Authors**
- **Authors and affiliations**

- Giuseppe Galloppo
- Giovanni Trovato
 - Giuseppe Galloppo
 - 1
 - 2
 - Giovanni Trovato
 - 1

1.Ceis FoundationUniversity of Rome Tor VergataRomeItaly

2.DEIM DepartmentUniversity of Tuscia ViterboViterboItaly

Original Article

First Online:

20 September 2016

Revised:

02 August 2016

DOI (Digital Object Identifier): 10.1057/s41260-016-0009-4

Cite this article as:

Galloppo, G. & Trovato, G. J Asset Manag (2017) 18: 99. doi:10.1057/s41260-016-0009-4

- 18 Downloads

Abstract

Starting from a review of 500 firms included in the Sp500 US Equity Index and by running a mixture model we built equity portfolios. In particular, the main objective of the present study is to examine the style drift effect during the 2007–2012 global financial crises, and what fundamental variables can contribute to this effect. Overall, there is a transition between Value and growth components among the pre-crisis and crisis periods. This is a passage (Drift) from one style to another. We consider three categories of variables in order to understand what hides behind this drift, namely: firm profitability, financial health and financial analyst information. We also take into account earnings per share (EPS), which means company's attitude to distribute dividends. In general, it is interesting to note that variables connected to financial health, except for the Current ratio in style transition, tend to have little explanatory power. Our results concerning Analyst information report say that while expectations of market analysts relating to corporate profits are more coupled with the Value component, Analysts' recommendations, on average, are crossed both for Value and growth factors.

Keywords

investment style fundamental factors capm mixture model financial crisis

References

- Agnello, L. and Sousa, R.M. (2011) Can fiscal policy stimulus boost economic recovery?. *Revue économique* 62(6): 1045–1066. [CrossRef](#)
<http://dx.doi.org/10.3917/reco.626.1045> [Google Scholar](#)
http://scholar.google.com/scholar_lookup?title=Can%20ofiscal%20policy%20stimulus%20boost%20economic%20recovery%3F&author=L.%20Agnello&author=RM.%20Sousa&journal=Revue%20%C3%A9conomique&volume=62&issue=6&pages=1045-1066&publication_year=2011
- Ainsworth, A.B., Fong K. and Gallagher D. (2008) Style drift and portfolio management for active Australian equity funds. *Australian Journal of Management* 32: 387–418. [CrossRef](#) <http://dx.doi.org/10.1177/031289620803200302> [Google Scholar](#)
http://scholar.google.com/scholar_lookup?title=Style%20drift%20and%20portfolio%20management%20for%20active%20australian%20equity%20funds&author=AB.%20Ainsworth&author=K.%20Fong&author=D.%20Gallagher&journal=Australian%20Journal%20of%20Management&volume=32&pages=387-418&publication_year=2008
- Aitkin, M. (1996). A general maximum likelihood analysis of overdispersion in generalized linear models. *Statistics and Computing* 6(3): 251–262. [CrossRef](#)
<http://dx.doi.org/10.1007/BF00140869> [Google Scholar](#)
http://scholar.google.com/scholar_lookup?title=A%20general%20maximum%20likelihood%20analysis%20of%20overdispersion%20in%20generalized%20linear%20models&author=M.%20Aitkin&journal=Statistics%20and%20Computing&volume=6&issue=3&pages=251-262&publication_year=1996
- Aitkin, M. (1997) Contribution to the discussion of paper by S. Richardson and PJ Green. *Journal of the Royal Statistical Society B* 59: 766. [Google Scholar](#)
http://scholar.google.com/scholar_lookup?title=Contribution%20to%20the%20discussion%20of%20paper%20by%20S.%20Richardson%20and%20PJ%20Green&author=M.%20Aitkin&journal=Journal%20of%20the%20Royal%20Statistical%20Society%20B&volume=59&pages=766&publication_year=1997
- Aitkin, M. (1999) A general maximum likelihood analysis of variance components in generalized linear models. *Biometrics* 55(1): 117–128. [CrossRef](#)
<http://dx.doi.org/10.1111/j.0006-341X.1999.00117.x> [Google Scholar](#)
http://scholar.google.com/scholar_lookup?title=A%20general%20maximum%20likelihood%20analysis%20of%20variance%20components%20in%20generalized%20linear%20models&author=M.%20Aitkin&journal=Biometrics&volume=55&issue=1&pages=117-128&publication_year=1999
- Alfò, M. and Trovato, G. (2004) Semiparametric mixture models for multivariate count data, with application. *The Econometrics Journal* 7(2): 426–454. [CrossRef](#)
<http://dx.doi.org/10.1111/j.1368-423X.2004.00138.x> [Google Scholar](#)
http://scholar.google.com/scholar_lookup?title=Semiparametric%20mixture%20models%20for%20multivariate%20count%20data%20with%20application&author=M.%20Alf%C3%B2&author=G.%20Trovato&journal=The%20Econometrics%20Journal&volume=7&issue=2&pages=426-454&publication_year=2004
- Alfo, M., Trovato, G. and Waldmann, R.J. (2008) Testing for country heterogeneity in growth models using a finite mixture approach. *Journal of Applied Econometrics* 23(4): 487–514. [CrossRef](#) <http://dx.doi.org/10.1002/jae.1008> [Google Scholar](#)
http://scholar.google.com/scholar_lookup?title=Testing%20for%20country%20heterogeneity%20in%20growth%20models%20using%20a%20finite%20mixture%20approach&author=M.%20Alfo&author=G.%20Trovato&author=RJ.%20Waldmann&journal=Journal%20of%20Applied%20Econometrics&volume=23&issue=4&pages=487-514&publication_year=2008
- Arshanapalli, B.G., Lorne N.S. and Panju, K. (2007) Equity-style timing: A multi-style rotation model for the Russell large-cap and small-cap growth and value style indexes. *Journal of Asset Management* 8:9–23. [CrossRef](#)
<http://dx.doi.org/10.1057/palgrave.jam.2250056> [Google Scholar](#)
http://scholar.google.com/scholar_lookup?title=Equity-style%20timing%3A%20A%20multi-style%20rotation%20model%20for%20the%20Russell%20large-cap%20and%20small-cap%20growth%20and%20value%20style%20indexes&author=BG.%20Arshanapalli&author=NS.%20Lorne&author=K.%20Panju&journal=Journal%20of%20Asset%20Management&volume=8&pages=9-23&publication_year=2007
- Barberis, N. and Shleifer, A. (2003) Style investing. *Journal of Financial Economics* 68: 161–199. [CrossRef](#) [http://dx.doi.org/10.1016/S0304-405X\(03\)00064-3](http://dx.doi.org/10.1016/S0304-405X(03)00064-3) [Google Scholar](#)
http://scholar.google.com/scholar_lookup?title=Style%20investing&author=N.%20Barberis&author=A.%20Shleifer&journal=Journal%20of%20Financial%20Economics&volume=68&pages=161-199&publication_year=2003

nal%20of%20Financial%20Economics&volume=68&pages=161-199&publication_year=2003)

Bird R. and Casavecchia L. (2011) Conditional style rotation model on enhanced value and growth portfolios: The European experience. *Journal of Asset Management* 11: 375–390. [CrossRef](http://dx.doi.org/10.1057/jam.2009.34) (<http://dx.doi.org/10.1057/jam.2009.34>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Conditional%20style%20rotation%20model%20on%20enhanced%20value%20and%20growth%20portfolios%3A%20The%20European%20experience&author=R.%20Bird&author=L.%20Casavecchia&journal=Journal%20of%20Asset%20Management.&volume=11&pages=375-390&publication_year=2011) (http://scholar.google.com/scholar_lookup?title=Conditional%20style%20rotation%20model%20on%20enhanced%20value%20and%20growth%20portfolios%3A%20The%20European%20experience&author=R.%20Bird&author=L.%20Casavecchia&journal=Journal%20of%20Asset%20Management.&volume=11&pages=375-390&publication_year=2011)

Boyer, H.B. (2011) Style-related comovement: Fundamentals or labels? *The Journal of Finance* 66: 307–332. [CrossRef](http://dx.doi.org/10.1111/j.1540-6261.2010.01633.x) (<http://dx.doi.org/10.1111/j.1540-6261.2010.01633.x>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Style-related%20comovement%3A%20Fundamentals%20or%20labels%3F&author=HB.%20Boyer&journal=The%20Journal%20of%20Finance.&volume=66&pages=307-332&publication_year=2011) (http://scholar.google.com/scholar_lookup?title=Style-related%20comovement%3A%20Fundamentals%20or%20labels%3F&author=HB.%20Boyer&journal=The%20Journal%20of%20Finance.&volume=66&pages=307-332&publication_year=2011)

Brown, K.C., Van Harlow W. and Zhang, H. (2009) *Staying the Course: The Role of Investment Style Consistency in the Performance of Mutual Funds*. University of Texas at Austin and Fidelity.

Campbell, J.Y. and Shiller, R.J. (1988) The dividend-price ratio and expectations of future dividends and discount factors. *Review of Financial Studies* 1(3): 195–228. [CrossRef](http://dx.doi.org/10.1093/rfs/1.3.195) (<http://dx.doi.org/10.1093/rfs/1.3.195>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=The%20dividend-price%20ratio%20and%20expectations%20of%20future%20dividends%20and%20discount%20factors&author=JY.%20Campbell&author=RJ.%20Shiller&journal=Review%20of%20Financial%20Studies&volume=1&issue=3&pages=195-228&publication_year=1988) (http://scholar.google.com/scholar_lookup?title=The%20dividend-price%20ratio%20and%20expectations%20of%20future%20dividends%20and%20discount%20factors&author=JY.%20Campbell&author=RJ.%20Shiller&journal=Review%20of%20Financial%20Studies&volume=1&issue=3&pages=195-228&publication_year=1988)

Campbell, J. and Shiller, R. (1989) The dividend-price ratio and expectations of future dividends and discount factors. *Review of Financial Studies* 1(3): 195–228. [CrossRef](http://dx.doi.org/10.1093/rfs/1.3.195) (<http://dx.doi.org/10.1093/rfs/1.3.195>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=The%20dividend-price%20ratio%20and%20expectations%20of%20future%20dividends%20and%20discount%20factors&author=J.%20Campbell&author=R.%20Shiller&journal=Review%20of%20Financial%20Studies&volume=1&issue=3&pages=195-228&publication_year=1989) (http://scholar.google.com/scholar_lookup?title=The%20dividend-price%20ratio%20and%20expectations%20of%20future%20dividends%20and%20discount%20factors&author=J.%20Campbell&author=R.%20Shiller&journal=Review%20of%20Financial%20Studies&volume=1&issue=3&pages=195-228&publication_year=1989)

Campbell, J.Y., Polk, C. and Vuolteenaho, T. (2010) Growth or glamour? Fundamentals and systematic risk in stock returns. *Review of Financial Studies* 23(1): 305–344. [CrossRef](http://dx.doi.org/10.1093/rfs/hhp029) (<http://dx.doi.org/10.1093/rfs/hhp029>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Growth%20or%20glamour%3F%20Fundamentals%20and%20systematic%20risk%20in%20stock%20returns&author=JY.%20Campbell&author=C.%20Polk&author=T.%20Vuolteenaho&journal=Review%20of%20Financial%20Studies&volume=23&issue=1&pages=305-344&publication_year=2010) (http://scholar.google.com/scholar_lookup?title=Growth%20or%20glamour%3F%20Fundamentals%20and%20systematic%20risk%20in%20stock%20returns&author=JY.%20Campbell&author=C.%20Polk&author=T.%20Vuolteenaho&journal=Review%20of%20Financial%20Studies&volume=23&issue=1&pages=305-344&publication_year=2010)

Chan, L.K.C, Karceski, J. and Lakonishok, J. (2000) New paradigm or some old hype in equity investing?. *Financial Analyst Journal*, 56: 23–36. [CrossRef](http://dx.doi.org/10.2469/faj.v56.n4.2371) (<http://dx.doi.org/10.2469/faj.v56.n4.2371>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=New%20paradigm%20or%20some%20old%20hype%20in%20equity%20investing%3F&author=LKC.%20Chan&author=J.%20Karceski&author=J.%20Lakonishok&journal=Financial%20Analyst%20Journal&volume=56&pages=23-36&publication_year=2000) (http://scholar.google.com/scholar_lookup?title=New%20paradigm%20or%20some%20old%20hype%20in%20equity%20investing%3F&author=LKC.%20Chan&author=J.%20Karceski&author=J.%20Lakonishok&journal=Financial%20Analyst%20Journal&volume=56&pages=23-36&publication_year=2000)

De Roon, F.A., Nijman, T.E. and Ter Horst T.R. (2004) Evaluating style analysis. *Journal of Empirical Finance* 11: 29–53. [CrossRef](http://dx.doi.org/10.1016/j.jempfin.2002.12.003) (<http://dx.doi.org/10.1016/j.jempfin.2002.12.003>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Evaluating%20style%20analysis&author=FA.%20DeRoon&author=TE.%20Nijman&author=TR.%20TerHorst&journal=Journal%20of%20Empirical%20Finance&volume=11&pages=29-53&publication_year=2004) (http://scholar.google.com/scholar_lookup?title=Evaluating%20style%20analysis&author=FA.%20DeRoon&author=TE.%20Nijman&author=TR.%20TerHorst&journal=Journal%20of%20Empirical%20Finance&volume=11&pages=29-53&publication_year=2004)

Dempster, A.P., Laird, N. and Rubin, D.B. (1977) Maximum likelihood estimation from incomplete data via the EM algorithm. *Journal of the Royal Statistical Society B*, 39(1): 1–38. [Google Scholar](http://scholar.google.com/scholar_lookup?title=Maximum%20likelihood%20estimation%20from%20incomplete%20data%20via%20the%20EM%20algorithm&author=AP.%20Dempster&author=N.%20Laird&author=DB.%20Rubin&journal=Journal%20of%20the%20Royal%20Statistical%20Society%20B&volume=39&issue=1&pages=1-38&publication_year=1977) (http://scholar.google.com/scholar_lookup?title=Maximum%20likelihood%20estimation%20from%20incomplete%20data%20via%20the%20EM%20algorithm&author=AP.%20Dempster&author=N.%20Laird&author=DB.%20Rubin&journal=Journal%20of%20the%20Royal%20Statistical%20Society%20B&volume=39&issue=1&pages=1-38&publication_year=1977)

Fama, E.F. and French, K.R. (2012) Size, value, and momentum in international stock returns. *Journal of Financial Economics* 105: 457–472. [CrossRef](http://dx.doi.org/10.1016/j.jfineco.2012.05.011) (<http://dx.doi.org/10.1016/j.jfineco.2012.05.011>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Size%20value%20and%20momentum%20in%20international%20stock%20returns&author=E.%20Fama&author=K.%20French&journal=Journal%20of%20Financial%20Economics&volume=105&pages=457-472&publication_year=2012) (http://scholar.google.com/scholar_lookup?title=Size%20value%20and%20momentum%20in%20international%20stock%20returns&author=E.%20Fama&author=K.%20French&journal=Journal%20of%20Financial%20Economics&volume=105&pages=457-472&publication_year=2012)

title=Size%2C%20value%2C%20and%20momentum%20in%20international%20stock%20returns&author=EF.%20Fama&author=KR.%20French&journal=Journal%20of%20Financial%20Economics&volume=105&pages=457-472&publication_year=2012)

Fama, E.F. and French, K.R. (1993) Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*. 33: 3–56. CrossRef

([http://dx.doi.org/10.1016/0304-405X\(93\)90023-5](http://dx.doi.org/10.1016/0304-405X(93)90023-5)) [Google Scholar](http://scholar.google.com/scholar_lookup?)

(http://scholar.google.com/scholar_lookup?

title=Common%20risk%20factors%20in%20the%20returns%20on%20stocks%20and%20bonds&author=EF.%20Fama&author=KR.%20French&journal=Journal%20of%20Financial%20Economics.&volume=33&pages=3-56&publication_year=1993)

Follmann, D.A. and Lambert, D. (1991) Identifiability of finite mixtures of logistic regression models. *Journal of Statistical Planning and Inference* 27(3): 375–

381. CrossRef ([http://dx.doi.org/10.1016/0378-3758\(91\)90050-0](http://dx.doi.org/10.1016/0378-3758(91)90050-0)) [Google Scholar](http://scholar.google.com/scholar_lookup?)

(http://scholar.google.com/scholar_lookup?

title=Identifiability%20of%20finite%20mixtures%20of%20logistic%20regression%20models&author=DA.%20Follmann&author=D.%20Lambert&journal=Journal%20of%20Statistical%20Planning%20and%20Inference&volume=27&issue=3&pages=375-381&publication_year=1991)

Hsing, Y. and Hsieh, W.-J. (2012) Impacts of macroeconomic variables on the stock market index in Poland: new evidence. *Journal of Business Economics and Management* 13(2): 334–343. CrossRef

(<http://dx.doi.org/10.3846/16111699.2011.620133>) [Google Scholar](http://scholar.google.com/scholar_lookup?)

(http://scholar.google.com/scholar_lookup?

title=Impacts%20of%20macroeconomic%20variables%20on%20the%20stock%20market%20index%20in%20Poland%3A%20New%20evidence&author=Y.%20Hsing&author=WJ.%20Hsieh&journal=Journal%20of%20Business%20Economics%20and%20Management&volume=13&issue=2&pages=334-343&publication_year=2012)

Idzorek, T.M. and Bertsch, F. (2004) The style drift score. *Journal of Portfolio Management*, 31: 76–83. CrossRef

(<http://dx.doi.org/10.3905/jpm.2004.443323>) [Google Scholar](http://scholar.google.com/scholar_lookup?)

(http://scholar.google.com/scholar_lookup?

title=The%20style%20drift%20score&author=TM.%20Idzorek&author=F.%20Bertsch&journal=Journal%20of%20Portfolio%20Management&volume=31&pages=76-83&publication_year=2004)

Kiefer, J. and Wolfowitz, J. (1956) Consistency of the maximum likelihood estimator in the presence of infinitely many incidental parameters. *The Annals of Mathematical Statistics* 27(4): 887–906. Google Scholar

(http://scholar.google.com/scholar_lookup?

title=Consistency%20of%20the%20maximum%20likelihood%20estimator%20in%20the%20presence%20of%20infinitely%20many%20incidental%20parameters&author=J.%20Kiefer&author=J.%20Wolfowitz&journal=Journal%20of%20the%20American%20Statistical%20Association&volume=27&issue=4&pages=887-906&publication_year=1956)

Kim, D. and Qi, Y. (2010) Accruals quality, stock returns, and macroeconomic conditions. *The Accounting Review* 85(3): 937–978. CrossRef

(<http://dx.doi.org/10.2308/accr.2010.85.3.937>) [Google Scholar](http://scholar.google.com/scholar_lookup?)

(http://scholar.google.com/scholar_lookup?

title=Accruals%20quality%2C%20stock%20returns%2C%20and%20macroeconomic%20conditions&author=D.%20Kim&author=Y.%20Qi&journal=The%20Accounting%20Review&volume=85&issue=3&pages=937-978&publication_year=2010)

Kumar, A. (2003) Style switching and stock returns. Working paper. Department of Economics Cornell University.

Laird, N. (1978) Nonparametric maximum likelihood estimation of a mixing distribution. *Journal of the American Statistical Association* 73(364): 805–

811. CrossRef (<http://dx.doi.org/10.1080/01621459.1978.10480103>) [Google Scholar](http://scholar.google.com/scholar_lookup?)

(http://scholar.google.com/scholar_lookup?

title=Nonparametric%20maximum%20likelihood%20estimation%20of%20a%20mixing%20distribution&author=N.%20Laird&journal=Journal%20of%20the%20American%20Statistical%20Association&volume=73&issue=364&pages=805-811&publication_year=1978)

Levy, H. (2010) The CAPM is alive and well: a review and synthesis. *European Financial Management* 16(1): 43–71. CrossRef

(<http://dx.doi.org/10.1111/j.1468-036X.2009.00530.x>) [Google Scholar](http://scholar.google.com/scholar_lookup?)

(http://scholar.google.com/scholar_lookup?

title=The%20CAPM%20is%20alive%20and%20well%3A%20a%20review%20and%20synthesis&author=H.%20Levy&journal=European%20Financial%20Management&volume=16&issue=1&pages=43-71&publication_year=2010)

Li, B., Yin, X. (2011) Information and capital asset pricing. *European Journal of Finance* 17(7): 505–523. CrossRef

(<http://dx.doi.org/10.1080/1351847X.2010.495476>) [Google Scholar](http://scholar.google.com/scholar_lookup?)

(http://scholar.google.com/scholar_lookup?

title=Information%20and%20capital%20asset%20pricing&author=B.%20Li&author=X

.%20Yin&journal=European%20Journal%20of%20Finance&volume=17&issue=7&pages=505-523&publication_year=2011)

Magni, C.A. (2009) Correct or incorrect application of CAPM? Correct or incorrect decisions with CAPM? *European Journal of Operational Research* 192(2): 549–560. [CrossRef](http://dx.doi.org/10.1016/j.ejor.2007.09.027) (<http://dx.doi.org/10.1016/j.ejor.2007.09.027>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Correct%20or%20incorrect%20application%20of%20CAPM%3F%20Correct%20r%20incorrect%20decisions%20with%20CAPM%3F&author=CA.%20Magni&journal=European%20Journal%20of%20Operational%20Research&volume=192&issue=2&pages=549-560&publication_year=2009) (http://scholar.google.com/scholar_lookup?title=Correct%20or%20incorrect%20application%20of%20CAPM%3F%20Correct%20r%20incorrect%20decisions%20with%20CAPM%3F&author=CA.%20Magni&journal=European%20Journal%20of%20Operational%20Research&volume=192&issue=2&pages=549-560&publication_year=2009)

McLachlan, G. and Peel, D. (2000) Mixtures of factor analyzers. *Finite Mixture Models*. pp. 238–256.

Muthén, B. and Asparouhov, T. (2009) Multilevel regression mixture analysis. *Journal of the Royal Statistical Society Series A (Statistics in Society)* 172(3): 639–657. [CrossRef](http://dx.doi.org/10.1111/j.1467-985X.2009.00589.x) (<http://dx.doi.org/10.1111/j.1467-985X.2009.00589.x>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Multilevel%20regression%20mixture%20analysis&author=B.%20Muth%20C3%A9n&author=T.%20Asparouhov&journal=Journal%20of%20the%20Royal%20Statistical%20Society%3A%20Series%20A%20%28Statistics%20in%20Society%29&volume=172&issue=3&pages=639-657&publication_year=2009) (http://scholar.google.com/scholar_lookup?title=Multilevel%20regression%20mixture%20analysis&author=B.%20Muth%20C3%A9n&author=T.%20Asparouhov&journal=Journal%20of%20the%20Royal%20Statistical%20Society%3A%20Series%20A%20%28Statistics%20in%20Society%29&volume=172&issue=3&pages=639-657&publication_year=2009)

Oertmann, P. (2000) Why do value stocks earn higher returns than growth stocks, and vice versa. *Financial Markets Portfolio Management* 14(2):131–151. [Google Scholar](http://scholar.google.com/scholar_lookup?title=Why%20do%20value%20stocks%20earn%20higher%20returns%20than%20growth%20stocks%2C%20and%20vice%20versa&author=P.%20Oertmann&journal=Financial%20Markets%20Portfolio%20Management&volume=14&issue=2&pages=131-151&publication_year=2000) (http://scholar.google.com/scholar_lookup?title=Why%20do%20value%20stocks%20earn%20higher%20returns%20than%20growth%20stocks%2C%20and%20vice%20versa&author=P.%20Oertmann&journal=Financial%20Markets%20Portfolio%20Management&volume=14&issue=2&pages=131-151&publication_year=2000)

Pastor, L. and Veronesi, P. (2012) Uncertainty about government policy and stock prices. *The Journal of Finance* 67(4): 1219–1264. [CrossRef](http://dx.doi.org/10.1111/j.1540-6261.2012.01746.x) (<http://dx.doi.org/10.1111/j.1540-6261.2012.01746.x>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Uncertainty%20about%20government%20policy%20and%20stock%20prices&author=L.%20Pastor&author=P.%20Veronesi&journal=The%20Journal%20of%20Finance&volume=67&issue=4&pages=1219-1264&publication_year=2012) (http://scholar.google.com/scholar_lookup?title=Uncertainty%20about%20government%20policy%20and%20stock%20prices&author=L.%20Pastor&author=P.%20Veronesi&journal=The%20Journal%20of%20Finance&volume=67&issue=4&pages=1219-1264&publication_year=2012)

Ross, S. (1976) The arbitrage theory of capital asset pricing. *Journal of Economic Theory* 13(3): 341–360. [CrossRef](http://dx.doi.org/10.1016/0022-0531(76)90046-6) ([http://dx.doi.org/10.1016/0022-0531\(76\)90046-6](http://dx.doi.org/10.1016/0022-0531(76)90046-6)) [Google Scholar](http://scholar.google.com/scholar_lookup?title=The%20arbitrage%20theory%20of%20capital%20asset%20pricing&author=S.%20Ross&journal=Journal%20of%20Economic%20Theory&volume=13&issue=3&pages=341-360&publication_year=1976) (http://scholar.google.com/scholar_lookup?title=The%20arbitrage%20theory%20of%20capital%20asset%20pricing&author=S.%20Ross&journal=Journal%20of%20Economic%20Theory&volume=13&issue=3&pages=341-360&publication_year=1976)

Sharpe, W.F. (1964) Capital asset prices: A theory of market equilibrium under conditions of risk. *Journal of Finance* 19(2): 425–442. [Google Scholar](http://scholar.google.com/scholar_lookup?title=Capital%20asset%20prices%3A%20A%20theory%20of%20market%20equilibrium%20under%20conditions%20of%20risk&author=WF.%20Sharpe&journal=Journal%20of%20Finance&volume=19&issue=2&pages=425-442&publication_year=1964) (http://scholar.google.com/scholar_lookup?title=Capital%20asset%20prices%3A%20A%20theory%20of%20market%20equilibrium%20under%20conditions%20of%20risk&author=WF.%20Sharpe&journal=Journal%20of%20Finance&volume=19&issue=2&pages=425-442&publication_year=1964)

Sharpe, W.F. (1988) Determining a fund's effective asset mix. *Investment Management Review* 2: 59–69. [Google Scholar](http://scholar.google.com/scholar_lookup?title=Determining%20a%20fund%E2%80%99s%20effective%20asset%20mix&author=WF.%20Sharpe&journal=Investment%20Management%20Review&volume=2&pages=59-69&publication_year=1988) (http://scholar.google.com/scholar_lookup?title=Determining%20a%20fund%E2%80%99s%20effective%20asset%20mix&author=WF.%20Sharpe&journal=Investment%20Management%20Review&volume=2&pages=59-69&publication_year=1988)

Sharpe, W.F. (1992) Asset allocation: Management style and performance measurement. *The Journal of Portfolio Management* 18:7–19. [CrossRef](http://dx.doi.org/10.3905/jpm.1992.409394) (<http://dx.doi.org/10.3905/jpm.1992.409394>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Asset%20allocation%3A%20Management%20style%20and%20performance%20measurement&author=WF.%20Sharpe&journal=The%20Journal%20of%20Portfolio%20Management&volume=18&pages=7-19&publication_year=1992) (http://scholar.google.com/scholar_lookup?title=Asset%20allocation%3A%20Management%20style%20and%20performance%20measurement&author=WF.%20Sharpe&journal=The%20Journal%20of%20Portfolio%20Management&volume=18&pages=7-19&publication_year=1992)

Stivers, C. and Licheng S. (2010) Cross-sectional return dispersion and time variation in value and momentum premiums 987–1014.

Svensson, LEO. (2010) Monetary policy and financial markets at the effective lower bound. *Journal of Money, Credit and Banking* 42(s1): 229–242. [CrossRef](http://dx.doi.org/10.1111/j.1538-4616.2010.00337.x) (<http://dx.doi.org/10.1111/j.1538-4616.2010.00337.x>) [Google Scholar](http://scholar.google.com/scholar_lookup?title=Monetary%20policy%20and%20financial%20markets%20at%20the%20effective%20lower%20bound&author=LEO.%20Svensson&journal=Journal%20of%20Money%20Credit%20and%20Banking&volume=42&issue=s1&pages=229-242&publication_year=2010) (http://scholar.google.com/scholar_lookup?title=Monetary%20policy%20and%20financial%20markets%20at%20the%20effective%20lower%20bound&author=LEO.%20Svensson&journal=Journal%20of%20Money%20Credit%20and%20Banking&volume=42&issue=s1&pages=229-242&publication_year=2010)

Teicher, H. (1963) Identifiability of finite mixtures. *The Annals of Mathematical Statistics* 34: 1265–1269. [CrossRef](http://dx.doi.org/10.1080/01621459.1963.10501459) (<http://dx.doi.org/10.1080/01621459.1963.10501459>)

(<http://dx.doi.org/10.1214/aoms/1177703862>) [Google Scholar](#)

(http://scholar.google.com/scholar_lookup?

title=Identifiability%20of%20finite%20mixtures&author=H.%20Teicher&journal=The%20Annals%20of%20Mathematical%20Statistics&volume=34&pages=1265-1269&publication_year=1963)

Teti, E., Dell'Acqua, A. and Zocchi, F. (2012) UN PRI and private equity returns.

Empirical evidence from the US market. *Investment Management and Financial*

Innovations 9(3): 60–67. [Google Scholar](#) (http://scholar.google.com/scholar_lookup?

title=UN%20PRI%20and%20private%20equity%20returns.%20Empirical%20evidence%20from%20the%20US%20market&author=E.%20Teti&author=A.%20Dell%20Acqua&author=F.%20Zocchi&journal=Investment%20Management%20and%20Financial%20Innovations&volume=9&issue=3&pages=60-67&publication_year=2012)

Wahal, S. and Deniz, Y.D. (2013) Style investing, comovement and return predictability.

Journal of Financial Economics 107: 136–154. [CrossRef](#)

(<http://dx.doi.org/10.1016/j.jfineco.2012.08.005>) [Google Scholar](#)

(http://scholar.google.com/scholar_lookup?

title=Style%20investing%20and%20comovement%20and%20return%20predictability&author=S.%20Wahal&author=YD.%20Deniz&journal=Journal%20of%20Financial%20Economics&volume=107&pages=136-154&publication_year=2013)

Wang, P., Puterman, M.L., Cockburn, I. and Le, N. (1996). Mixed poisson regression

models with covariate dependent rates. *Biometrics* 52(2): 381–400. [Google Scholar](#)

(http://scholar.google.com/scholar_lookup?

title=Mixed%20poisson%20regression%20models%20with%20covariate%20dependent%20rates&author=P.%20Wang&author=ML.%20Puterman&author=I.%20Cockburn&author=N.%20Le&journal=Journal%20of%20Financial%20Economics&volume=52&issue=2&pages=381-400&publication_year=1996)

Copyright information

© Macmillan Publishers Ltd 2016

About this article

- Publisher Name Palgrave Macmillan UK
- Print ISSN 1470-8272
- Online ISSN 1479-179X

- [About this journal](#)
- [Reprints and Permissions](#)

palgrave
macmillan

- Co-published with

[Palgrave Macmillan](#)

SPRINGER NATURE

© 2017 Springer International Publishing AG. Part of [Springer Nature](#).

Not logged in Università di Roma 'Tor Vergata' (2000346894) 160.80.178.152