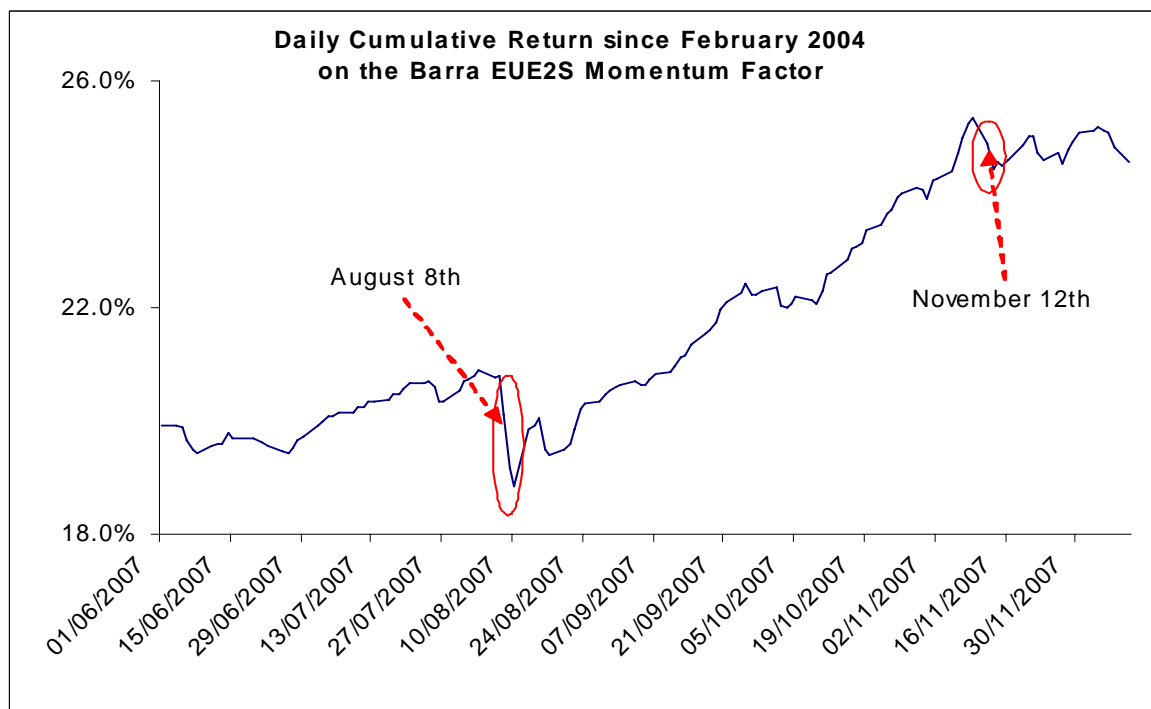


In this paper, we document the sudden drop in the Barra European Model momentum factor return on November 12, 2007. Compared to the US Barra Model momentum factor return which also experienced large losses on the same day<sup>1</sup>, this drop was not as significant. Further investigations at the stock level reveal a plausible relationship between trading volume, exposure to momentum and the synchronized fall in the Barra momentum factor returns in the US and in Europe.

The European Model momentum factor return experienced its second largest drop on November 12, 2007, since the turmoil on August 8, 2007 (see Chart 1).

**Chart 1**

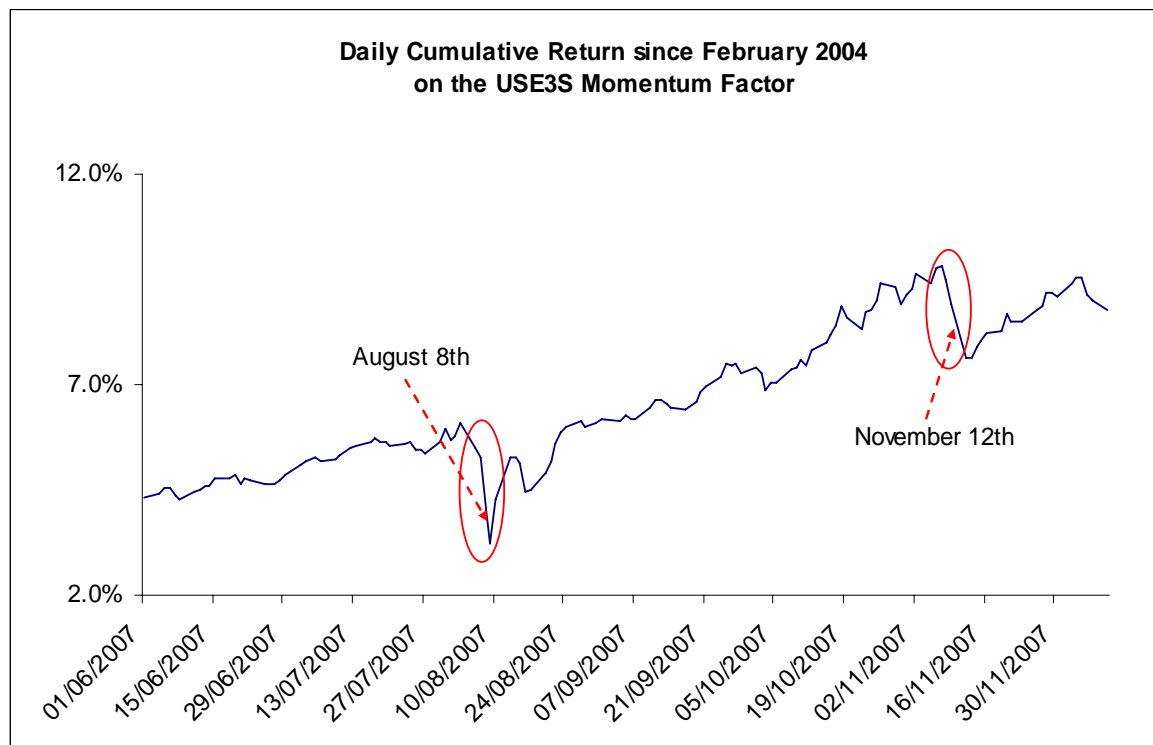


Although substantial, given historical momentum factor returns for the European Model, the drop in the European momentum factor was not as severe in absolute terms as the one also experienced by the US momentum factor on November 12, 2007 (see Chart 2).

This is consistent with the overall lower level of volatility of momentum factor returns in Europe compared to the US (see Table 1).

<sup>1</sup> See Barra Research Bulletin titled "The End of the Momentum Run?", released on 16<sup>th</sup> November 2007.

Chart 2



**Table 1**  
**Momentum Factor Returns and Standard Deviations (%)**

	Europe	US
<b>2007 Average</b> (3/1/07-26/11/07)	0.03	0.02
<b>2007 Standard Deviation<sup>2</sup></b> (3/1/07-26/11/07)	0.14	0.22
<b>August 8, 2007</b>		
<b>Momentum Factor Return</b>	-0.54	-1.24
<b>November 12, 2007</b>		
<b>Momentum Factor Return</b>	-0.37	-1.17

We saw similar large drops in the Barra momentum factor returns on August 8 during the August equity turmoil. Both August 8 and November 12 were days with increased trading activity. Interestingly, we find that the stocks that experienced extremely high daily trading volume on August 8 and November 12 also had very high exposures to the Barra momentum factor in both markets and were among those which had the most extreme returns on those two days.

<sup>2</sup> Excluding August 8 and November 12, 2007, does not change the standard deviation figures presented in this table.

More precisely, we measure stock trading activity on a given day by the ratio of daily trading volume over market capitalization (Traded Value Ratio or TVR). Table 2 shows that there was indeed substantial correlation between daily trading activity and absolute exposure to the momentum factor during the August turmoil week (August 3 - August 9) and during the days surrounding November 12, culminating on August 8 and November 12. The cross-sectional correlation was as high as 50% in the US and 25% in Europe on November 12 while the average correlation in the last year between trading activity and momentum exposure was only 15% in the US and 11% in Europe.

**Table 2**  
**Cross-sectional Correlation between Daily TVR and Absolute Exposure to Momentum**

	August 8, 2007	Average 3/8/07- 9/8/07	November 12, 2007	Average 7/11/07- 13/11/07	Average 3/1/07- 26/11/07
MSCI US	0.28	0.25	0.50	0.41	0.15
MSCI Europe	0.24	0.19	0.25	0.23	0.11

Although it is difficult to establish a robust link between trading activity, stock exposures to momentum, and the synchronized fall in the momentum factor returns for the entire universe of stocks, we may get further insights by examining the stocks that experienced extreme trading activity on these particular days. Among these stocks, we see in Table 3 that a large proportion also had high exposure to the momentum factor both on November 12 and on August 8.

**Table 3**  
**Proportion of Stocks with Extreme TVR (Top Decile)**  
**and Extreme Exposure to Momentum**

	Absolute Exposure to Momentum		
	Below Median	Above Median	Extreme (Top Decile)
<b>MSCI US</b>			
August 8, 2007	0.28	0.72	0.34
November 12, 2007	0.18	0.82	0.37
Average 3/1/07-26/11/07	0.38	0.62	0.20
<b>MSCI Europe</b>			
August 8, 2007	0.26	0.74	0.21
November 12, 2007	0.18	0.82	0.21
Average 3/1/07-26/11/07	0.34	0.66	0.14

Finally, Table 4 and Table 5 show similar findings for small caps both in the US and in Europe, although the unusually high cross-sectional correlations between daily TVR and exposure to momentum were not as pronounced as they were for the large caps.

**Table 4**  
**Cross-sectional Correlation between Daily TVR and Absolute Exposure to Momentum**

	August 8, 2007	Average 3/8/07- 9/8/07	November 12, 2007	Average 7/11/07- 13/11/07	Average 3/1/07- 26/11/07
MSCI US Small Caps	0.36	0.32	0.35	0.30	0.24
MSCI Europe Small Caps	0.26	0.20	0.26	0.22	0.17

**Table 5**  
**Proportion of Stocks with Extreme TVR (Top Decile) and Extreme Exposure to Momentum**

	Absolute Exposure to Momentum		
	Below Median	Above Median	Extreme (Top Decile)
<b>MSCI US Small Caps</b>			
August 8, 2007	0.22	0.78	0.35
November 12, 2007	0.18	0.82	0.42
Average 3/1/07-26/11/07	0.30	0.70	0.29
<b>MSCI Europe Small Caps</b>			
August 8, 2007	0.26	0.74	0.21
November 12, 2007	0.20	0.80	0.32
Average 3/1/07-26/11/07	0.35	0.65	0.19

We presented stock level evidence linking momentum factor exposure, high trading volume and extreme momentum factor returns on August 8 and November 12, 2007. This evidence may suggest that the widespread use of systematic investment strategies that target stocks with high exposure to certain factors may be related to the recent large synchronized falls in Barra factor returns.

## Contact Information

[clientservice@mscibarra.com](mailto:clientservice@mscibarra.com)

### Americas

---

Americas	1.888.588.4567 (toll free)
Atlanta	+ 1.404.949.4529
Boston	+ 1.617.856.8716
Chicago	+ 1.312.706.4999
Montreal	+ 1.514.847.7506
New York	+ 1.212.762.5790
San Francisco	+ 1.415.576.2323
Sao Paulo	+ 55.11.3048.6080
Toronto	+ 1.416.943.8390

### Europe, Middle East & Africa

---

Amsterdam	+ 31.20.462.1382
Cape Town	+ 27.21.683.3245
Frankfurt	+ 49.69.2166.5325
Geneva	+ 41.22.817.9800
London	+ 44.20.7618.2222
Madrid	+ 34.91.700.7275
Milan	+ 39.027.633.5429
Paris	0800.91.59.17 (toll free)
Zurich	+ 41.1.220.9300

### Asia Pacific

---

China Netcom	10800.852.1032 (toll free)
China Telecom	10800.152.1032 (toll free)
Hong Kong	+ 852.2848.7333
Singapore	+ 65.6834.6777
Sydney	+ 61.2.9033.9333
Tokyo	+ 813.5424.5470

[www.mscibarra.com](http://www.mscibarra.com)

## Notice and Disclaimer

- This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the "Information") is the property of MSCI Inc. (which is registered to do business in New York under the name NY MSCI), Barra, Inc. ("Barra"), or their affiliates (including without limitation Financial Engineering Associates, Inc.) (alone or with one or more of them, "MSCI Barra"), or their direct or indirect suppliers or any third party involved in the making or compiling of the Information (collectively, the "MSCI Barra Parties"), as applicable, and is provided for informational purposes only. The Information may not be reproduced or disseminated in whole or in part without prior written permission from MSCI or Barra, as applicable.
- The Information may not be used to verify or correct other data, to create indices, risk models or analytics, or in connection with issuing, offering, sponsoring, managing or marketing any securities, portfolios, financial products or other investment vehicles based on, linked to, tracking or otherwise derived from any MSCI or Barra product or data.
- **Historical data and analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction.**
- **None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), or a promotion or recommendation of, any security, financial product or other investment vehicle or any trading strategy, and none of the MSCI Barra Parties endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies. None of the Information, MSCI Barra indices, models or other products or services is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such.**
- The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information.
- NONE OF THE MSCI BARRA PARTIES MAKES ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE INFORMATION (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF), AND TO THE MAXIMUM EXTENT PERMITTED BY LAW, MSCI AND BARRA, EACH ON THEIR BEHALF AND ON THE BEHALF OF EACH MSCI BARRA PARTY, HEREBY EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES (INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF ORIGINALITY, ACCURACY, TIMELINESS, NON-INFRINGEMENT, COMPLETENESS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO ANY OF THE INFORMATION.
- **Without limiting any of the foregoing and to the maximum extent permitted by law, in no event shall any of the MSCI Barra Parties have any liability regarding any of the Information for any direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited.**
- Any use of or access to products, services or information of MSCI or Barra or their subsidiaries requires a license from MSCI or Barra, or their subsidiaries, as applicable. MSCI, Barra, MSCI Barra, EAFE, Aegis, Cosmos, BarraOne, and all other MSCI and Barra product names are the trademarks, registered trademarks, or service marks of MSCI, Barra or their affiliates, in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and Standard & Poor's. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and Standard & Poor's.
- The governing law applicable to these provisions is the substantive law of the State of New York without regard to its conflict or choice of law principles.

© 2007 MSCI Barra. All rights reserved.

### About MSCI Barra

MSCI Barra is a leading provider of investment decision support tools to investment institutions worldwide. MSCI Barra products include indices and portfolio analytics for use in managing equity, fixed income and multi-asset class portfolios.

The company's flagship products are the MSCI International Equity Indices, which are estimated to have over USD 3 trillion benchmarked to them, and the Barra risk models and portfolio analytics, which cover 56 equity and 46 fixed income markets. MSCI Barra is headquartered in New York, with research and commercial offices around the world. Morgan Stanley, a global financial services firm, is the majority shareholder of MSCI Barra.