

Introduction

Fears of a recession in the US triggered panic selling in Asia this week, leading to a sharp decline in the region's stock markets. These concerns have roiled markets throughout Asia since Monday (January 21), dashing the hopes of investors that the region would be able to dodge the adverse impact of an American downturn. Until now, Asian markets had largely avoided the sell-off that has caused steep declines recently in the United States, whose economic troubles were triggered by the subprime crisis. But investors reacted with what many analysts described as panic over multiplying signs of weakness in the American economy.

Comparison Across Market and Across Time

In this note we shall first examine this decline by using MSCI Index returns for Asian markets during various crises over the last ten years. These are shown in Figure 1 and would allow us to draw conclusions on the evenness of these selloffs across countries, as well as compare their performance during different crises across time.

Figure 1: MSCI Index Returns for Various Regions and Asian Countries

	Daily Return										
	January 08 Sell-off		Aug 07 Quant Meltdown		Feb 07 Subprime		911		LTCM		Asian Crisis
	Jan 22 2008	Jan 21 2008	Aug 16 2007	Aug 16 2007	Feb 27 2007	Feb 27 2007	Sep 12 2001	Sep 11 2001	Aug 31 1998	Aug 27 1998	Oct 28 1997
WORLD	-0.3%	-3.0%	-1.4%	-1.4%	-2.5%	-2.5%	-0.5%	-1.5%	-3.4%	-3.4%	0.9%
USA	-1.1%	0.0%	0.2%	0.2%	-3.4%	-3.4%	0.0%	0.0%	-6.7%	-3.7%	4.8%
EUROPE	3.1%	-6.6%	-4.0%	-4.0%	-2.4%	-2.4%	1.5%	-5.3%	-0.3%	-3.4%	-2.4%
EM	-2.7%	-5.8%	-5.6%	-5.6%	-3.1%	-3.1%	-2.6%	-3.3%	-1.7%	-6.1%	-2.1%
ASIA PAC x JP	-6.3%	-4.9%	-5.7%	-5.7%	-1.3%	-1.3%	-5.4%	-0.1%	-3.0%	-1.9%	-8.2%
JAPAN	-6.7%	-2.5%	0.9%	0.9%	1.2%	1.2%	-6.9%	2.1%	3.4%	-1.7%	-2.3%
AUSTRALIA	-6.2%	-4.9%	-6.1%	-6.1%	-0.9%	-0.9%	-5.2%	1.5%	-0.7%	-4.8%	-5.3%
HONG KONG	-6.4%	-4.8%	-3.1%	-3.1%	-1.8%	-1.8%	-9.2%	0.3%	-8.4%	0.3%	-12.9%
SINGAPORE	-0.6%	-6.9%	-4.4%	-4.4%	-1.9%	-1.9%	-4.8%	0.9%	-4.9%	1.0%	-7.1%
NEW ZEALAND	1.1%	-2.7%	-6.2%	-6.2%	-1.0%	-1.0%	-6.7%	0.9%	-0.9%	-3.5%	-14.6%
CHINA	-10.2%	-6.2%	-5.5%	-5.5%	-2.5%	-2.5%	-9.4%	1.4%	3.0%	-2.5%	-7.9%
KOREA	-4.9%	-3.4%	-7.8%	-7.8%	-1.1%	-1.1%	-11.5%	-2.5%	-1.7%	-2.3%	-8.6%
TAIWAN	-6.9%	-1.0%	-4.8%	-4.8%	0.0%	0.0%	0.6%	-2.2%	-3.3%	-0.3%	-6.8%
INDIA	-5.6%	-9.7%	-5.7%	-5.7%	-1.0%	-1.0%	-3.6%	-1.0%	0.9%	-0.7%	0.0%
MALAYSIA	-3.9%	-2.9%	-4.0%	-4.0%	-3.0%	-3.0%	0.0%	0.4%	0.2%	-3.7%	-7.6%
THAILAND	-3.6%	-3.7%	-4.0%	-4.0%	-1.9%	-1.9%	0.6%	-0.4%	0.2%	-0.6%	-10.2%
INDONESIA	-7.9%	-6.0%	-5.5%	-5.5%	-1.4%	-1.4%	-3.8%	0.1%	2.8%	-0.5%	-13.5%
PHILIPPINES	-6.1%	-0.9%	-6.3%	-6.3%	-1.8%	-1.8%	-4.6%	0.2%	1.3%	-1.2%	-7.8%
PAKISTAN	-1.1%	0.0%	-1.1%	-1.1%	-0.4%	-0.4%	-4.7%	-0.2%	-0.9%	-1.9%	-9.1%
ASIA x JP	-6.3%	-4.9%	-5.7%	-5.7%	-1.3%	-1.3%	-5.4%	-0.1%	-3.0%	-1.9%	-8.2%
ENERGY	-9.1%	-7.7%	-5.1%	-5.1%	-1.3%	-1.3%	-3.6%	-1.1%	2.0%	0.3%	-4.1%
MATERIALS	-7.1%	-4.6%	-6.2%	-6.2%	-1.0%	-1.0%	-2.9%	-1.1%	-0.6%	-0.8%	-6.8%
INDUSTRIES	-6.2%	-5.8%	-7.7%	-7.7%	-1.8%	-1.8%	-9.0%	-0.4%	-2.9%	0.2%	-7.5%
CON DESCR	-4.9%	-3.9%	-4.8%	-4.8%	-1.9%	-1.9%	-5.8%	-1.0%	-2.9%	-1.0%	-7.5%
CON STAPLES	-5.7%	-3.3%	-5.0%	-5.0%	-1.5%	-1.5%	-1.9%	-1.3%	-0.3%	-1.2%	-4.4%
HEALTH CARE	-5.1%	-6.7%	-3.8%	-3.8%	-1.3%	-1.3%	-2.7%	-1.2%	-0.4%	-1.5%	-5.1%
FINANCIALS	-6.5%	-5.4%	-5.1%	-5.1%	-2.1%	-2.1%	-5.2%	-0.1%	-6.2%	-0.2%	-10.4%
INFO TECH	-6.0%	-1.9%	-5.6%	-5.6%	-0.1%	-0.1%	-4.7%	-1.8%	-2.6%	-0.2%	-8.2%
TELECOM	-5.8%	-4.7%	-3.9%	-3.9%	-1.6%	-1.6%	-6.6%	0.2%	-5.1%	0.0%	-10.9%
UTILITIES	-5.5%	-5.9%	-3.5%	-3.5%	-1.4%	-1.4%	-5.2%	-0.8%	-5.3%	-0.8%	-8.7%

First, we observe that this time Asia was much more affected as compared to the US than when the subprime troubles first emerged in February 2007. In the latter episode, Asian markets were relatively sheltered, which at the time lent support to the decoupling argument.

Second, we note that this latest selloff has been the most severe since the Asian crisis more than a decade earlier, even surpassing the Sept 11 shock. One possible explanation is that the Asian stocks were at more inflated prices after a multiple-year bull run. Another is that due to market complacency the impact of a US recession had not been sufficiently priced into markets until this week, particularly for those markets in Asia.

In addition, the markets that rose the most over the last several years were among the markets with the sharpest declines. These included China and India, whose negative returns over the two days combined (January 21 to 22) were in double digits.

At the industry level, Energy was the biggest loser over this recent two-day period. This phenomenon was possibly triggered by fears that a US and global slowdown would reduce energy demand and lower the earnings yield of these stocks. This is in contrast to earlier selloffs such as during August last year and after Sept 11, in which the industries sector was the hardest hit. At the other end of the spectrum, Consumer Discretionary, Consumer Staples and Information Technology were the sectors that had the smallest declines this time.

Next, we delve deeper into this latest decline in January 2008 by examining the evolution of various Barra Factors. Since within the Asian region a short-term model is available only for Japan, the Japanese Short-Term Model will be the focus of our analysis next.

Analysis of Barra Factors: The Case of Japan

We begin by analyzing the Barra Risk Index Factors for the Japanese Short-Term Equity (JPE3S) model in order to gain further insights into the recent selloff. We base our analysis on the market performance from January 1 to January 21, 2008.

Figure 2: Barra Factor Returns of Japan Short Term Model (JPE3S) in Various Periods

	Volatility	Size	Momentum	Trade Activity	Value	Interest Sensitivity	Growth	Leverage	Foreign Sensitivity
Jan 2008 (to Jan 21)	-40.7%	37.7%	-8.1%	9.3%	-19.4%	14.9%	-9.9%	3.2%	-1.4%
Within Last quarter	-14.1%	23.5%	-13.8%	-3.0%	-5.5%	3.8%	-1.9%	-1.5%	-3.6%
Within Last year	-3.2%	5.5%	1.6%	-1.2%	-0.6%	0.6%	-2.4%	0.6%	0.9%
Within Last 10 yr	2.1%	-0.3%	-3.7%	-0.5%	4.0%	1.3%	-1.1%	1.9%	0.9%

Note: All figures are annualized.

Figure 2 highlights some significant changes in the Barra Factor returns. The volatility factor has noticeably fallen more severely in January 2008, although there was a general decline over the past year. The size factor has risen, indicating that the larger stocks have benefited from a flight for safety away from small caps. Value stocks have also underperformed relative to growth stocks, reinforcing a trend that has been occurring over the last several months. Not surprisingly, the momentum factor has continued on its downward trend, while trading activity has significantly picked up in January, reversing a general decline over the last year. A larger increase in interest rate sensitivity is observed, though this is in accordance with the general upward trend over the last ten years. However, foreign sensitivity has declined.

Finally, Figure 3 (next page) shows the performance of the 41 industry factors for the Japanese Equity model over various periods. The steep stock market drop in January appears to be across the board. The uniformity of the decline is in fact striking, with 28 out of 41 industries registering declines of between 90%-100% (annualized), and 38 industries within the range of 80% to 100%. Only defensive industries such as Passenger Transport, Drugs and Utilities fell by less, but even these industries were not completely spared.

Figure 3: Barra Industry Factor Returns of Japan Short Term Model in Various Periods

	Chemicals	Paper	Metals	Glass	Energy	Industrial Parts	Factory	Precision Equipment	Plant Machinery	Special Vehicles
Jan 2008 (to Jan 21)	-94.5%	-98.6%	-91.7%	-98.7%	-99.3%	-96.6%	-97.0%	-93.2%	-98.3%	-98.2%
Within Last quarter	-53.4%	-51.4%	-60.7%	-74.8%	-67.1%	-57.6%	-60.4%	-39.3%	-66.6%	-72.9%
Within Last year	-18.7%	-24.5%	-14.4%	-27.9%	-17.7%	-24.3%	-20.0%	-13.4%	-14.6%	-29.8%
Within Last 10 yr	6.0%	-3.0%	6.2%	6.2%	0.8%	5.1%	4.5%	7.0%	3.2%	5.6%

	Auto	Electronics	Semicond	Computer	Office/home Electronics	Electric Goods	Drugs	Food & Beverage	Hsehold & Cosmetics	Apparel
Jan 2008 (to Jan 21)	-99.0%	-97.2%	-96.7%	-94.2%	-97.7%	-94.3%	-63.7%	-87.9%	-83.5%	-96.1%
Within Last quarter	-51.8%	-56.7%	-61.2%	-53.0%	-47.7%	-46.9%	-24.2%	-31.4%	-19.7%	-53.2%
Within Last year	-25.2%	-23.9%	-35.9%	-15.6%	-20.2%	-13.5%	-12.7%	-12.9%	-15.4%	-25.8%
Within Last 10 yr	4.8%	4.7%	-3.6%	-0.9%	4.1%	4.3%	11.4%	3.5%	5.0%	0.8%

	Misc products	Games	Consumer Services	Media	Telecom	Dept store Supermkt	Specialty Retailers	Trading Houses	Business outsourcg	Software systems
Jan 2008 (to Jan 21)	-91.2%	-95.0%	-87.6%	-89.9%	-90.2%	-90.6%	-89.1%	-97.9%	-92.9%	-93.4%
Within Last quarter	-44.1%	-46.1%	-32.2%	-36.8%	-32.6%	-21.4%	-32.8%	-62.5%	-45.2%	-48.4%
Within Last year	-18.9%	-9.8%	-16.8%	-18.9%	-19.2%	-14.1%	-17.0%	-17.4%	-19.2%	-21.8%
Within Last 10 yr	1.7%	10.1%	-0.9%	1.8%	-0.6%	1.8%	2.5%	3.0%	-1.1%	2.5%

	Passenger Transport	Logistics	Infrastruct constructn	Housing & Building	Real estate	Banks	Regional Banks	Cons/Biz loans	Security	Insurance	Utility
Jan 2008 (to Jan 21)	-55.9%	-95.3%	-94.1%	-89.5%	-89.5%	-89.3%	-85.7%	-90.2%	-98.0%	-83.1%	-74.9%
Within Last quarter	-21.2%	-55.6%	-50.9%	-49.8%	-54.9%	-30.7%	-22.5%	-58.3%	-63.0%	-59.3%	-27.4%
Within Last year	-8.1%	-18.0%	-19.6%	-28.8%	-29.6%	-41.9%	-18.0%	-39.9%	-30.9%	-29.2%	-18.1%
Within Last 10 yr	6.4%	1.8%	-3.0%	-1.3%	3.1%	-8.1%	1.3%	-1.9%	8.1%	5.1%	4.3%

Note: All figures are annualized.

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