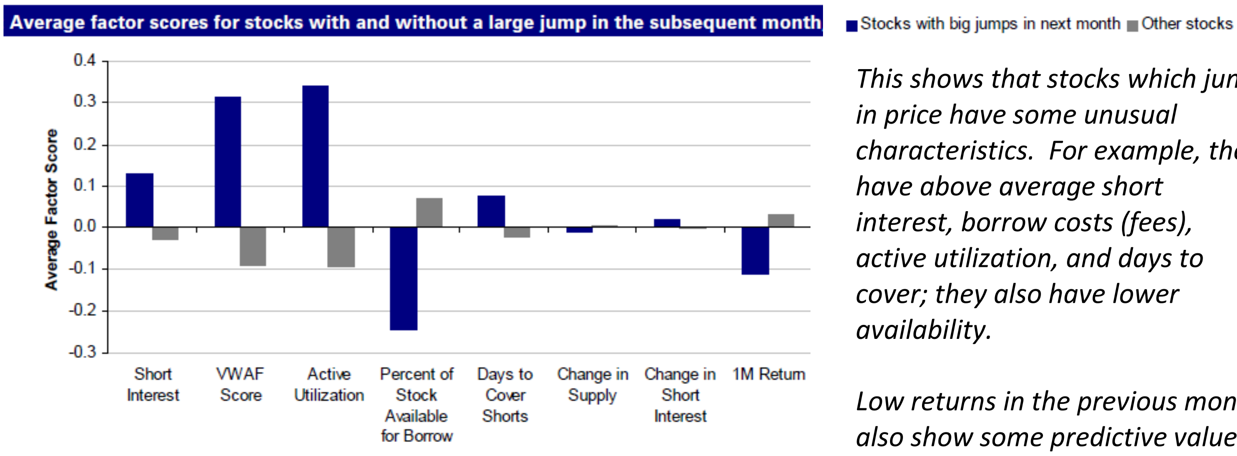
dataexplorers

Research Note #1 20 June 2011

‘Reverse Torpedoes’ in US Equities

‘Reverse Torpedoes’ are stocks which show a sudden price spike. Research by Deutsche Bank[1] (DB) shows that Securities Lending data can be used to identify likely candidates.

The following chart summarizes the DB findings for the Russell 3000 universe.



This shows that stocks which jump in price have some unusual characteristics. For example, they have above average short interest, borrow costs (fees), active utilization, and days to cover; they also have lower availability.

Low returns in the previous month also show some predictive value.

The following table shows correlations to illustrate how these characteristics are related.

Fee	Active Utilization	% of Stock Available to	Days To Cover	
0.19	0.62	-0.10	0.46	Short Interest
	0.50	-0.30	0.16	Fee
		-0.58	0.49	Active Utilization
			-0.26	% of Stock Available to borrow

This shows that Active Utilization and Availability are inversely related (-0.58). Active Utilization and Short Interest have a correlation of +0.62, and both are moderately correlated with Days To Cover. Fee is not correlated with Days to Cover but is moderately correlated with Active Utilization.

These correlations indicate that a number of these characteristics are interchangeable and for this reason we will focus on Active Utilization. To assess the value of Active Utilization, we reviewed a data sample consisting of monthly price changes for approximately 2900 stocks for Jan 2008 – Dec 2010, which gives 100,693 price ‘events’. Of these, 5,151 (around 5%) can be classified as large price jumps[2].

1 ‘Signal Processing – The Long and Short of It’, Deutsche Bank Quantitative Team January 2011

2 Large price jumps are defined as a 2 standard deviation event for each stock, compared with the historic price change distribution for that stock.

In the following tables we show the Expected and Actual distributions of these jumps associated with three different Active Utilization thresholds. As the threshold is increased, there are fewer events to analyze.

	Active	Expected	Jump	No Jump	Observed	Jump	No Jump
Obs ÷ Exp	Utilization	High	704	13,055	High	933	12,826
33%	> 50%	Low	4,447	82,487	Low	4,218	82,716

	Active	Expected	Jump	No Jump	Observed	Jump	No Jump
Obs ÷ Exp	Utilization	High	437	8,107	High	590	7,954
35%	> 70%	Low	4,714	87,435	Low	4,561	87,588

	Active	Expected	Jump	No Jump	Observed	Jump	No Jump
Obs ÷ Exp	Utilization	High	287	5,315	High	424	5,178
48%	> 90%	Low	4,864	90,227	Low	4,727	90,364

When the Active Utilization threshold is 50%, there are 933 'Reverse Torpedoes', 229 more than would be expected by chance. At the 90% threshold, there are 424 observed jumps, compared with the 287 expected.

Why do stocks with high Active Utilization show spikes in price? There are a number of possible reasons:

Short squeezes: In theory, these occur when a physical shortage of lendable (due to a recall) results in short sellers closing their positions and driving prices temporarily higher. This could be exacerbated by an absence of selling from institutions. High Active Utilization makes a short position more vulnerable to a recall.

Positive news: This would result in prices being marked up, followed by institutional buying and /or short covering. This is similar to a squeeze, except that shorts are choosing to cover due to escalating losses and a change in outlook for the stock.

Reversal: As the DB work shows, previous underperformance can help to predict price spikes. If Active Utilization is high, then that implies that implies that in some cases short sellers will have correctly anticipated a price decline. They may take profits, (short covering) while the lower price may simultaneously attract institutional buyers.

In conclusion:

- **Active Utilization is a good proxy for a range of other Securities Lending metrics**

- **'Reverse Torpedoes' are 1.5 times more likely than chance when Active Utilization is 90% or more.**