

## **Comments on New sight of herding behavioural trough trading volume**

Dr Hachicha proposes a new measure of herding inspired by the approach of Hwang and Salmon (2004) but instead of using cross-sectional beta deviations based on returns he uses beta deviations based on trading volume. In sum, this paper;

1. Brings something new to the table in terms of model application focusing on volume rather than returns
2. Is applied to Toronto Stock Exchange
3. Finds evidence of herding and decomposes herding into three components; stationary herding, intentional herding, feedback herding

Regarding the overall quality of the paper it has an equal standard relative to traditional herding papers, for example Hwang and Salmon (2004), Christie and Huang (1995), or Chang et al. (2000).

As with all herding measures it lacks precision to solve the problem at hand, which is to detect and separate imitating behaviour among investors "herding" from price movements due to change in fundamentals. There might for example be large variations in trading volume as price adjusts to a dramatic change in fundamental value. That is, variations in trading volume and / or price cannot always be attributed to herding.

Moreover, the measure needs also to separate herding from other behavioural anomalies investors may have also affecting volume and price. Herding is not necessarily the only one. Other psychological effects might be the effects of Anchoring, Disposition Effects, Confirmation bias, Representativeness and more. In addition, these effects may vary in terms of investor influence over different phases of the lifecycle of a price trend.

Hence, herding measures can at best only be noisy proxies for imitating behaviour.

I found this paper very interesting to read. However, I think that trading volume is too broad and blunt measure to be able to detect and separate herding from other anomalies in a rewarding way. Returns, as in the original Hwang and Salmon (2004) approach, also broad and blunt may still be a better proxy. See the reasoning below.

### **Trading Volume is not necessarily a proxy for herding behaviour in financial markets**

My main critique is that trading volume is not necessarily a proxy for herding / imitating behaviour for two reasons.

- 1) Herding implies buy and sell asymmetry rather than fluctuations in the total level of traded shares
- 2) During the lifecycle of a price trend, herding is most potent in the overreaction phase, and one can argue that variations in trading volume are larger in the underreaction phase subjected to other behavioural influences than herding. Variations in trading volume may be used to detect divergences from efficient pricing but it is not likely to be contributed to herding per se.

### **Herding implies Buy/Sell Asymmetry rather than variation in trading volume**

If investors as a coordinated group want to buy an asset there will necessarily be an asymmetry between increasing buying pressure relative to existing selling pressure, bidding up the price in the direction of the herd. I believe that herding necessarily implies **asymmetry** of market action in favour for the direction of the herd but not necessarily a significant increase in the **level** of market action measured by trading volume. I believe that variations in trading volume tend to increase around market turning points due to “battles” between buyers and sellers. Battle implies that investors as a group are not in agreement. Trading volume then dries up and beta (see Equation 2 in the paper) returns to its equilibrium as investor asymmetry (the winning side) takes over and pushes the price in the direction of their expectations. A trend has begun.

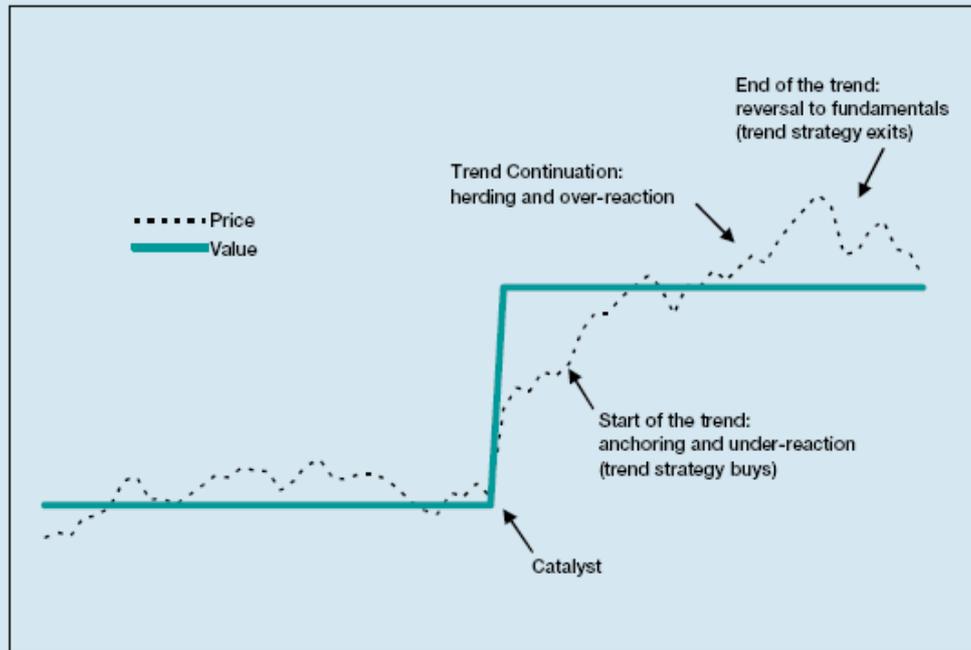
The point I want to make is that it is rather the battle between buyers and sellers, when the market participants are not in agreement in their expectations that tend to increase market action and trading volume in a dramatic way, not as long the group is “in agreement” in the case of herding. During herding price can move considerably only with moderate or equilibrium level of trading volume. Herding is hence more likely to affect returns than volume.

### **Herding is dominant in the overreaction phase of the lifecycle of a trend - volume is not**

In the investment community price trends are important to pay attention to when it comes to enter, exit or scaling a position up or down and herding is a natural part in the trend lifecycle. The lifecycle of a trend is described in the following article presented by AQR Capital Management published in the winter of 2010:

(Source: <http://www.aqr.com/Research/UnderstandingManagedFutures.pdf>)

**Exhibit 2: Stylized plot of the lifecycle of a trend.**



Source: AQR. For illustrative purposes only.

Schematically the lifecycle of a trend begins with a change in the assets fundamental value driven by a catalyst. A catalyst might be an unexpected major order from China changing the company's value. Graphically we see that a catalyst change the fundamentals in an instant whereas the price does not follow the same dramatic action. The time it takes for the price to reach the new equilibrium price, Price = Value, is denoted the underreaction phase. When the price finally catches up to its value investors have incentives to push the price even further up creating a positive distance between price and value. This period is denoted overreaction. Obviously trends cannot go on forever and at some point price revert to fundamental value subsequent to the overreaction period.

From a Behavioural Finance standpoint there are psychological factors that try to explain why under- and overreaction periods occur:

According to AQR, price does not immediately follow the same dramatic jump up as the price because of the following factors:

- 1) Anchor and insufficient adjustment
- 2) The disposition effect
- 3) Non-profit seeking market participants who fight trends (Central Banks)

This is the underreaction period.

The period of overreaction in contrast is driven by

- 1) Herding and feedback trading
- 2) Confirmation bias and Representativeness
- 3) Risk Management (Scaling up or down in line with the trend)

The underreaction period asset experience dramatic increase in trading volume associated with the catalyst as many investors wants in. This is an example of clustering of trades with

high trading volume but not driven by herding per se. The overreaction period on the other hand is driven by feedback trading and herding, with buy and sell asymmetry pushing the price higher, but not necessary with increase in volume.

As I relate herding with buy and sell asymmetry, returns should be much more affected by herding than what could be expected from trading volume. In sum, I think that trading volume is too broad and blunt measure to be able to detect and separate herding from other anomalies that may influence price in any rewarding way. Returns, as in the original Hwang and Salmon (2004) approach, also broad and blunt may still be a better proxy.

### **Minor suggestions for improvement**

Dr Hachicha briefly mentions why trading volume could be used to detect herding. But since the use of trading volume is the main contribution of this paper I would like a lengthier discussion of why trading volume could be argued to capture herding in the first place.

When presenting a new herding measure I believe it is rewarding to compare the results to the original Hwang and Salmon approach based on returns applied to the same data set. In this way the author can highlight the similarities and differences between two approaches and perhaps even build a case of why trading volume may be useful