

# Behavioral Science and the Application of Systems Thinking in the Capital Markets

# Presentation

- Mental Heuristics
- Capital market system participants
- Understanding their psychology
- System thinking approach
- How bubbles are created
- How they eventually burst
- Conclusion

## Our Mental Biases

- Short cuts that the brain takes when processing information
- It does not process full information
- These short cuts lead to biases.

***Mental Biases cause Investors to form  
biased Expectations***

## Decision Biases

- Availability
- Representative
- Saliency
- Overconfidence
- Anchoring

## Availability: Readily available Information

- React to Recall Value
- Media Coverage, Analyst Reports, Advertisements
- Leads to..... HERD MENTALITY.....

## **Representative: Similarity**

### **Over react to new information**

- Second rated stocks start rising because of the leaders doing well
- IPO's to cash on current fads
- Companies changing names

# **Saliency: Events which occur infrequently**

## **Over react to new information**

- Mangalore plane crash
- Quarterly results

# Overconfidence: Smarter than they really are

## Under React to New Information

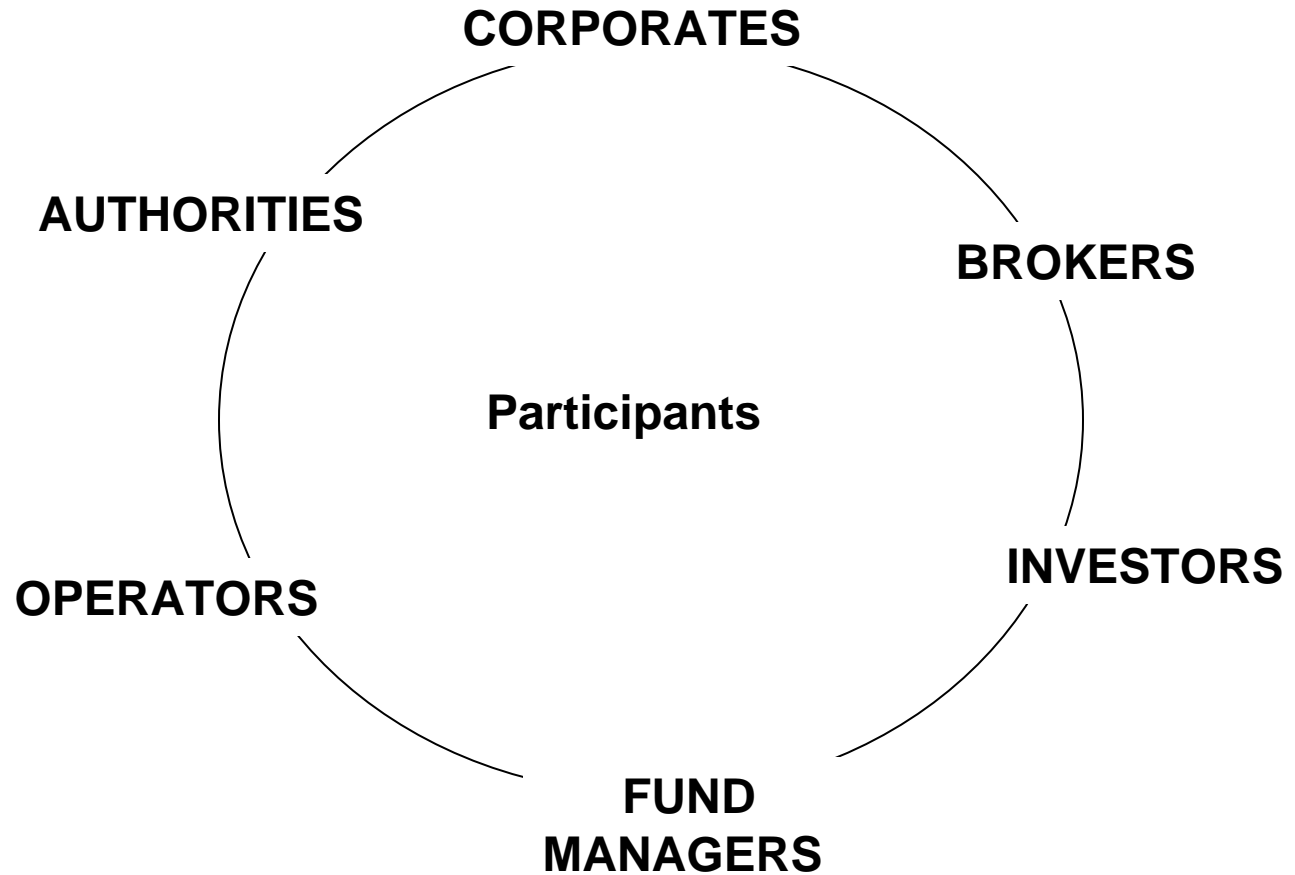
- Analysts commenting on Ambani Truce
- FII Investment figures
- Budget analysis Experts

# **Anchoring: Locked to the Past**

## **Under React to New Information**

- Most Investors have not benefited from the current rally
- Anchored to 8000 index

## Capital Market System



**Bull Market. . . . . Stocks going  
up..up...**

**Why Does Everyone Like  
High Stock Prices?**

## Participants and their Psychology

Regulator

Government

Stock Exchanges

Banks

Media

Companies

Mutual Funds

Brokers

Investors

Operators

## To Understand Markets

- Understand Investor Biases
- Understand Participants' Psychology
- Understand Systems and System Thinking

## System & Systems Thinking

- A system is an entity that maintains its existence and functions as a whole through the interaction of its parts connected directly or indirectly and a change in one part affects all the other parts.
- Systems thinking is thinking in circles rather than in straight lines. The connection between parts form feedback loops.

## Feedback Loop

Feedback is fundamental in systems –  
no feedback, no system

- Feedback loop is the output of a system re-entering as its input, or the return of information to influence the next step.

## Two Types Of Feedback Loops

- Reinforcing Feedback - Changes in the whole system feedback to amplify the original change: more change in the same direction.
- Balancing Feedback - changes in the whole system feedback to oppose the original change and so dampen the effect.

**All systems have balancing loops since their goal is to remain stable**

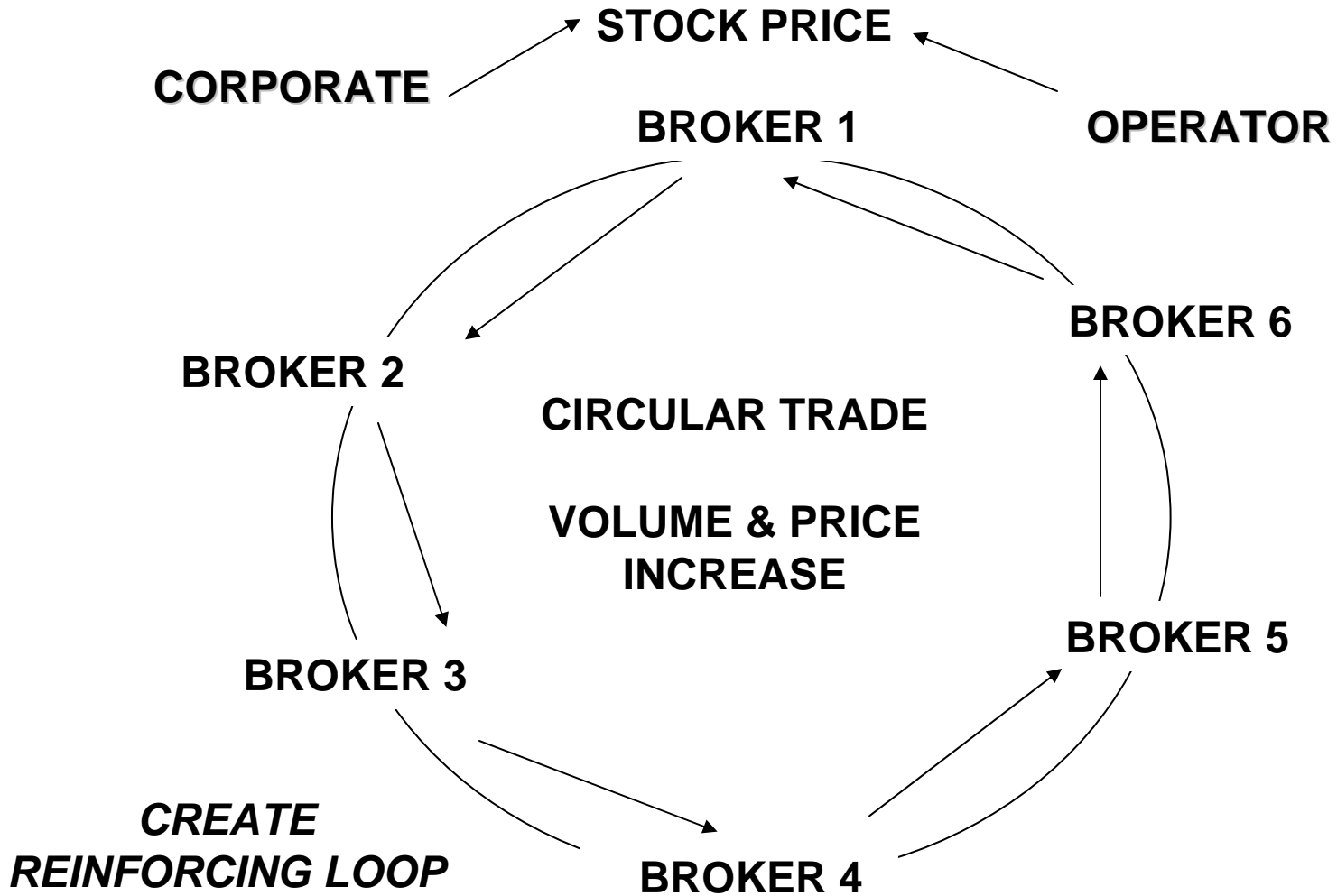
# **The Bull Run psychology.....**

## **Helps Create a Real....**

### **Bull Market**

**“Whoever can supply them with illusions is  
easily their master”**

**- *Gustave Le Bon***



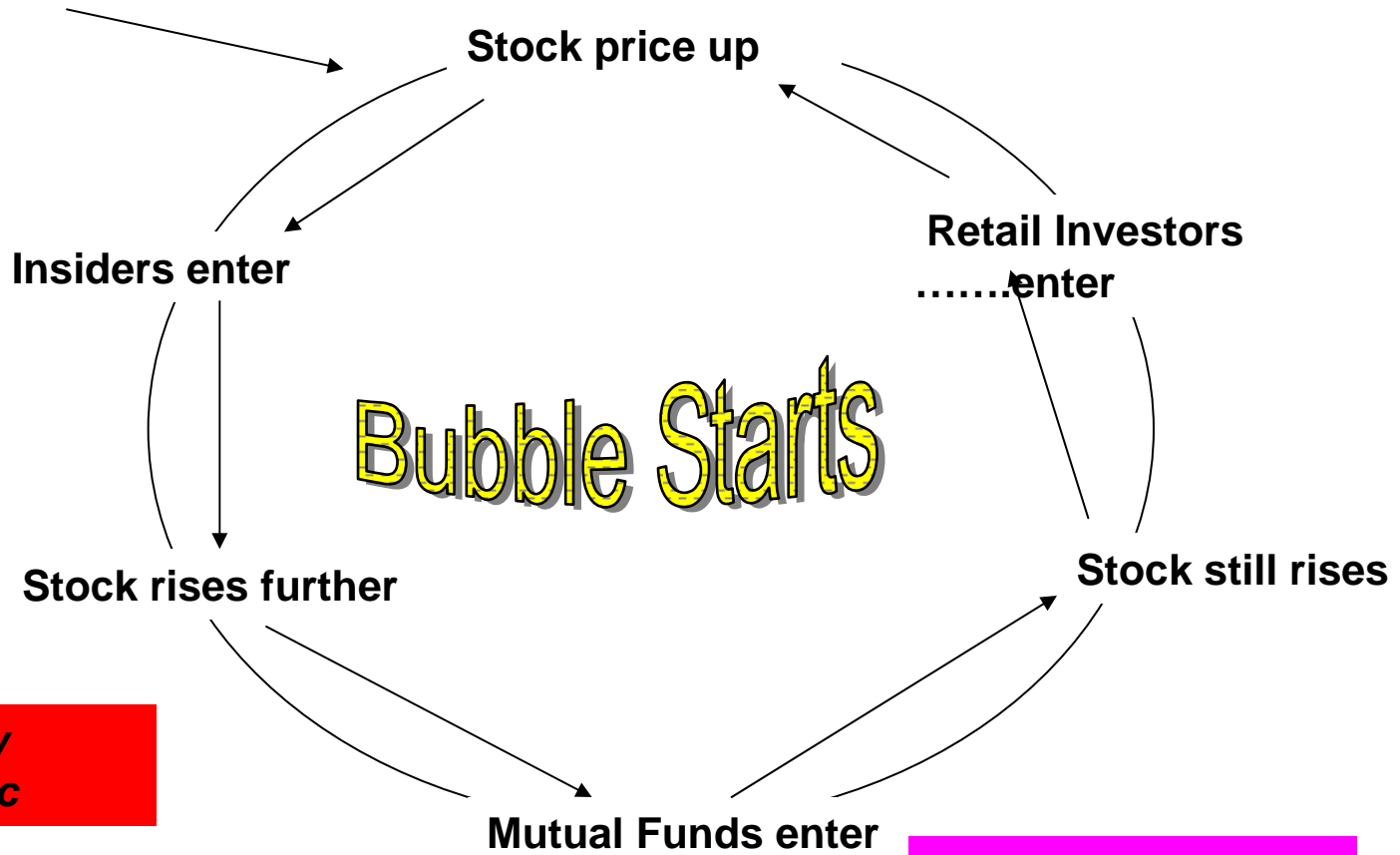
**Media Stories planted**

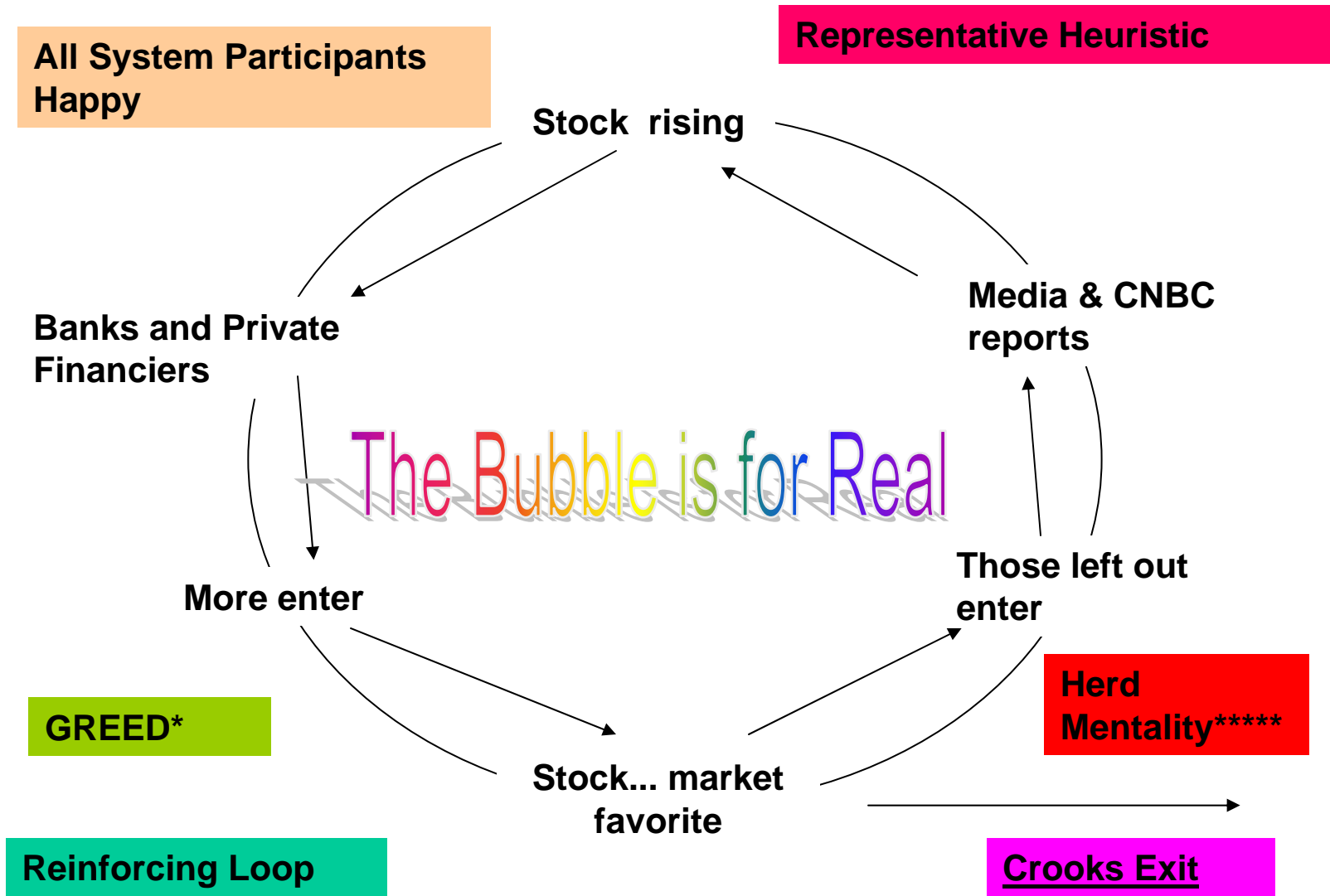
**Availability Heuristic at Play**

**Saliency Heuristic**

**Research Reports**

**Exit available for early entrants**

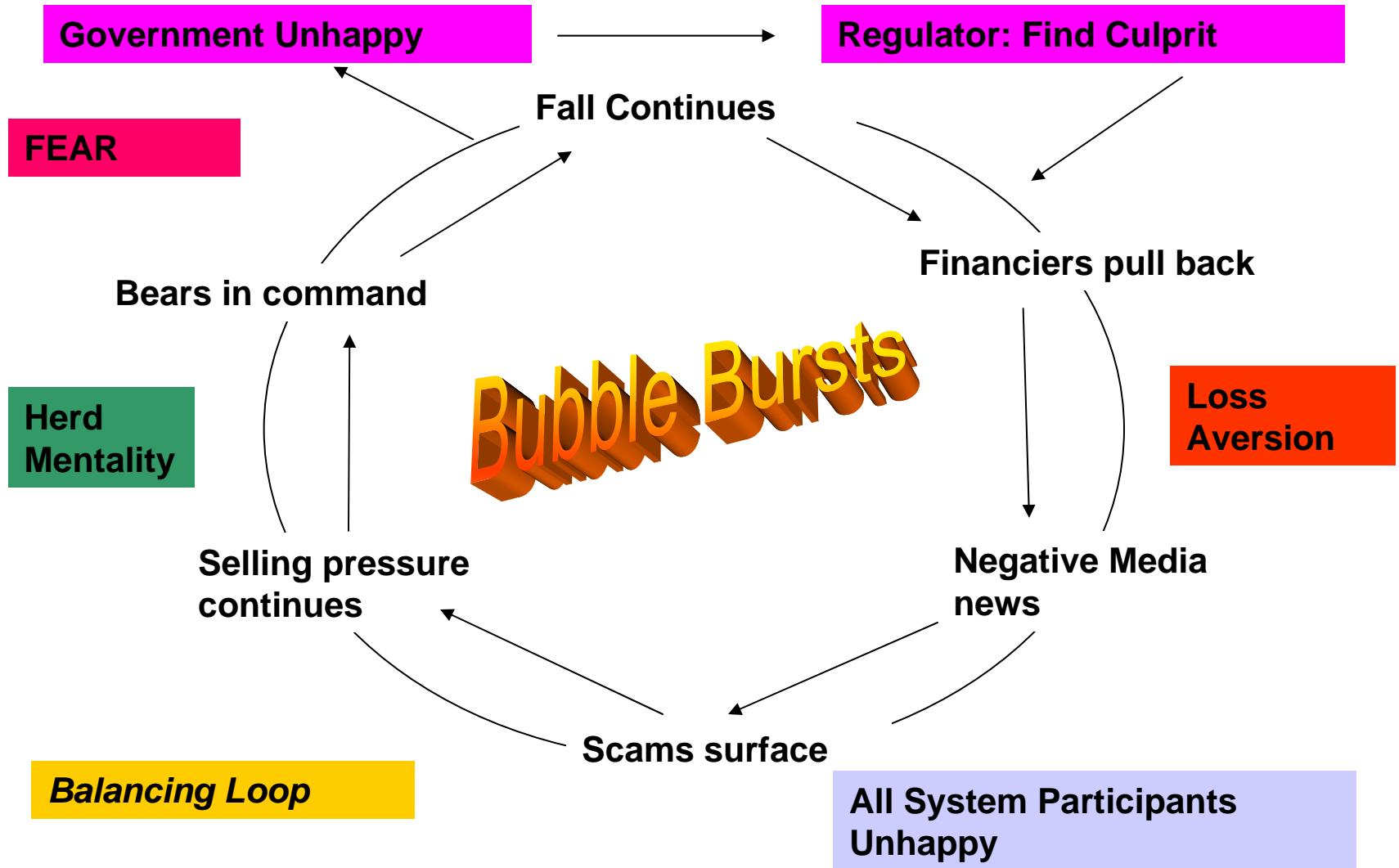




## **Balancing Loop Awaited**

**Between a Cause and an Effect there is a time lag which is hard to Predict. . . . .**





# **Severity of the Balancing Loop directly proportional to Severity of the Reinforcing Loop**

**Bull Market: Source of Money**

**Bear Market: Source of Information**

**“To know the art of impressing the imagination of crowds is to know at the same time the art of governing them”**

**-- Gustave Le Bon**

**Thank You**