

# ECONOMIC BUBBLE

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## Abstract

*Asset prices that are above their intrinsic value because present owners think they can sell the assets for more money in the future are referred to as bubble. The four primary strands of models that determine the circumstances under which bubble can exist are as follows. The first category of models makes the assumption that every investor has reasonable expectations and access to the same information. These models lead to the verifiable inference that the bubble must travel along explosive route. The second group of models, investors are asymmetrically educated, and because bubbles need not to be well known, they can occur in a wide range of circumstances. A third group of models is where in how rational and behavioural traders interact in this kind of model. In the final group of traders past opinions are varied and presumably as a result of psychological biases and as a result they concur to disagree regarding the assets fundamental value*

## INTRODUCTION

Markets all over the world is very volatile. Primary most important markets are the stock market and the real estate market. What is a Bubble? If put in simple words it's a deviation of market price from the assets actual or the value of the asset in the start. Usually, investors try investing their money on the assets which are undervalued. Preliminary news regarding a company's fundamentals may impact positively or negatively on the stock prices some traders may then buy or sell additional shares in response to recent movement of price. Positive bubbles will become more likely as a result of the probable non-trivial costs of short selling, though an overvaluation will be harder to correct. Therefore, the report will mostly focus on price developments that are beneficial. A positive bubble is when the market price of an asset is higher than the discounted value of the Expected future cash flow. The study of bubble has grown over time to include an examination of the consequence of perverse incentives and constrained rationality. The incentive to herd and the restricted liability pay structure are two wide spread issue that prod professional money managers to invest in inflated securities, according to the new generation of rational models. The fact that information intermediaries are not directly compensated by investors and that their motivations are not always consistent with revealing negative information is another issue that contributes to bubbles. And behavioural models give fresh perspective on how bubbles may form under what circumstance under which bubbles in asset price may arise.

Additionally, some models explain why numerous bubble episodes are accompanied by high trading volume. The behavioral view of bubbles find support in experimental studies.

The discounted cash flow formula serves as the upper bound of the acceptable range of fair value when assets cash flow is positively correlated with market risk, as is the case for the majority of businesses. In this situation, the needed rate of return must be strictly higher than the risk-free rate. Similarly, an upper bound of expected cash flow for other firms in the same industry or asset class may be employed when it is difficult to predict future cash flows for a specific asset or company

## BEHAVIORAL MODELS

### a) Model 1

Disagreements and restrictions on short sales. This group of models takes into account a scenario with conflicting investor interests and short sale restrictions. These models demonstrate that if optimistic investors are dogmatic about their beliefs or boundedly rational, they will overlook the possibility that other agents in the economy may have more gloomy opinions about an asset but are unable to sell it due to short sale restrictions. The asset's market price as a result will be excessively high in comparison to fair value, which is likely situated somewhere between the two sets of opinions. When uncertainty over the asset's value is eliminated and investors' beliefs come to consensus, or when, the price will drop to its underlying value. when restrictions on short sales are lifted, enabling pessimistic investors to sell the overpriced asset. A straightforward static model for overvaluation caused by dispute and short sale restrictions is provided by Miller (1977). Building on the previously described Harrison and Kreps (1978) model, Scheinkman and Xiong (2003) provide a dynamic continuous time model that takes Miller's

intuition into account. Because agents will choose to pay more than their valuations today in the hopes of reselling the item at an even higher price tomorrow, the dynamic setting enables this model to attain even higher levels of overpricing.

The viability of this approach has been supported by a number of empirical research. For instance, Diether, Malloy, and Scherbina (2002) demonstrate that stocks with large prediction dispersion appear to be overpriced—they underperform otherwise equivalent stocks in the future. They do this by using dispersion in analyst earnings estimates as a proxy for disagreement. In a further test of the model, Chen, Hong, and Stein (2001) use the diversity of mutual fund ownership as a proxy for disagreement, conjecturing that when a stock is owned by a broad cross-section of mutual funds, the degree of disagreement regarding the stock value is lower than when a stock is owned by a small number of funds. The overvaluation of equities held by a select few mutual funds is discovered by the authors, supporting the model.

### **b) Model 2**

The feedback trading by presuming that a group of traders base their trading requests only on previous price movements, this class of models causes bubbles. Many reports of asset price bubbles as well as numerous theoretical models describe feedback trading mechanisms that allow bubbles to grow for a while before ultimately collapsing. An easy explanation is as follows: An asset sees a high initial return in response to good news. A group of feedback traders observe this and buy the asset, pushing prices above fundamentals because they believe the high return will continue. As prices rise further, more feedback traders are drawn to acquire the asset, driving up values even further and luring more feedback traders in, and so on. As long as more money is put into the market, the price will continue to increase. When the rate of fresh capital intake slows, price growth also slows. At this point, money may start to leave, which would cause the bubble to pop.

### **c) Model 3:**

Self-attribution that is biased A representative investor in this paradigm experiences biased self-attribution. Biased self-attribution is a phenomenon that has been well-documented in psychology research. It causes people to pay attention to signs that support their ideas and ignore signals that do the opposite. The model is constructed in the manner described below and was first presented by Daniel, Hirshleifer, and Subrahmanyam (1998). Investors form their early judgements about a security's value after hearing a noisy private signal. They might have discovered this secret signal, for instance, by investigating the security. Investors then receive a loud public signal, which is supposed to be practically pure noise and should therefore be ignored for the sake of exposition. However, given that investors experience bias, After the public signal validates their private knowledge, individuals become overconfident in their belief and further modify their valuation in the direction of their private signal. The price remains stable when the public signal conflicts with the investors' private information. As a result, price changes in anticipation of public signals follow the first price response to the private signal. These future price increases are illogical given the economy's fundamentals and are a bubble. After the cumulative public signals cause investors to finally lose faith in their private signal, the bubble begins to burst given that investors experience bias, After the public signal validates their private knowledge, individuals become overconfident in their belief and further modify their valuation in the direction of their private signal. The price remains stable when the public signal conflicts with the investors' private information. As a result, price changes in anticipation of public signals follow the first price response to the private signal. These future price increases are illogical given the economy's fundamentals and are a bubble. After the cumulative public signals cause investors to finally lose faith in their private signal, the bubble begins to burst.

### **c) Model 4:**

Heuristic for representativeness. The representativeness heuristic and the conservative bias are two behavioural phenomena that are combined in the fourth model. Both occurrences indicate deviations from ideal Bayesian information processing and have been previously described in psychology. Investors overreact when the representativeness heuristic induces them to place too much emphasis on news that is attention-grabbing or "strong." Contrarily, the conservatism bias captures investors' propensity to modify their models too slowly, underweighting pertinent but unobtrusive (routine) facts, which results in under-reaction. A sparse model is developed by Barberis, Shleifer, and Vishny (1998) and is based in part on these two different psychological biases. They believe that since earnings are subject to a random walk process, the most recent earnings reallocation is the best indicator of how much money will be made in the future. Investors erroneously believe that either a mean-reversion model or a trending model adequately captures the earnings process in place of a random walk model. The second model implies that future earnings innovations will have the same sign as past innovations, while the first model assumes that earnings innovations would be reversed. (e.g., a growth company will continue to grow in the future) Investors also believe there is a slim chance the earnings process will alternate between trending and

mean-reversing. The recurrent realisation of earnings innovations of the same sign across several consecutive periods is the key signal in this situation that persuades investors to embrace the trending model of earnings rather than the mean-reversion model. The occurrence of the same sign's earnings shocks repeatedly occurs solely by accident and has no bearing on the estimate for future earnings. Investors, however, make the error of spotting a pattern and extrapolating it into the future, which causes them to overreact to the data presented in the past series of earnings

### **How do Bubbles Begin to Form?**

Rather than being generated, a bubble must already exist when an asset begins trading. (again, consider the case of fiat money, where the intrinsic value of the asset is zero but it trades at a strictly positive price). According to Behavioural models, a bubble can occur when prices overreact to a fundamentals-related signal that could be instructive. A bubble must already exist when an asset starts trading, as opposed to developing. (again, consider the case of fiat money, where the intrinsic value of the asset is zero but it trades at a strictly positive price). Behavioral models predict that a bubble can develop when prices overreact to a fundamentals-related signal that may be useful.

### **What causes bubbles to pop or deflate?**

the asset's value is once again resolved or when the restrictions on short sales are no longer as strict. According to Model 1, a bubble will collapse when the question of Scherbina (2008) demonstrates again that the biggest price drops for companies with significant levels of analyst disagreement about future earnings are seen around earnings announcements, when much of the uncertainty around earnings announcements, when much of the uncertainty Model 2 predicts that a bubble will burst when the availability of fresh capital runs out. A bubble needs a new influx of investment cash to continue expanding. Prices start to flatten out as the flow of new capital slows down, and as a result, the initially upbeat sentiment eventually changes, leading to the deflation of the bubble. Of course, it is challenging to foresee a change in sentiment. It will coincide with the exhaustion of the supply of new investors if it is related to the halting of the bubble's expansion. There is evidence to suggest that bubbles do indeed burst shortly after a significant portion of less knowledgeable market participants, such as households, begin to invest in the inflated asset. According to historical records, a significant number of low-income households participated in the busts of the tulip, South Sea, and Mississippi bubbles. By following this reasoning, credit bubbles created by a quick increase in credit would burst as credit becomes more limited, as it did in Japan in 1990, leading to the collapse of the country's equity and real estate markets. Governments may restrict credit for strategic reasons (for as by restricting the entrance of foreign capital) or with the explicit intention of deflating a bubble. Governments have also attempted to deflate bubbles by introducing transaction taxes or raising capital gains taxes, for example. These actions will limit trading and aid in the deflation of bubbles. For instance, China increased its security transactions tax on May 30, 2007, which resulted to decreased market price

A bubble will burst in models 3 and 4 when the favourable mood is reversed. Additionally, in model 4, a bubble might pop after a "strong" negative signal. For instance, Nicholas and Scherbina's (forthcoming) research demonstrates that the third quarter of 1929 marked the beginning of the real estate price collapse, nearly corresponding with the stock market disaster. The stock market disaster may not have directly affected real estate valuations, but it may have acted as a "strong" warning against investors' enthusiasm for any asset class. Bubbles on assets with limited lifespans will undoubtedly pop before the asset's last trading day. For instance, it was well known that the Chinese warrant bubbles would pop on or before the expiration date because the warrants' expiration dates were known in advance. Yu and Xiong (2011) note that the bubbles deflated gradually rather than abruptly on the last day of trade, with price declines speeding up six days before to option expiration this time was also marked by intense trading.

A bubble will finally bust if arbitrageurs attack it by selling enough of the overpriced asset short.

### **Conclusion**

The experimental literature on bubbles demonstrates that bubbles regularly appear in artificial marketplaces. The experimental literature, which directly tests the presumptions underlying behavioral models, discovers that the growth of bubbles is in fact associated by high trading volume, a phenomenon seen in actual markets and expressly reflected in models incorporating feedback trading. According to the second category of behavioural models, the chance of a bubble rises when short sale limitations are put in place and plenty of novice traders take part in the experiment.

Importantly, the experimental setting supports the theory that one of the main causes of bubbles is the lack of common understanding of rationality among all traders. Recent theoretical research has contributed by demonstrating that the absence of sensible investors does not always contribute to the elimination of bubbles. The new models show that these new assumptions can each result in an outcome where rational traders do not trade

against the bubble, which would contribute to its collapse, but trade with the bubble, aggravating the mispricing, at least for some time. These new assumptions include departing from the assumption of common knowledge of a bubble's existence, introducing feedback traders, or imparting limited liability for key agents.

The literature offers a number of recommendations on how to help prevent future bubbles, while it is still debatable whether governments should step in after a bubble is already well under way. One recommendation is to always remove limitations on short sales. To lessen the negative impact of investor irrationality, another suggestion is to improve financial education. Last but not least, the research points to the necessity of reducing the limited liability incentive structure and exposing all agents to the bubble's potential downside risk.

