

Speculation, Trading and Bubbles

Third Annual Arrow Lecture

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1 Introduction

The history of financial markets is strewn with periods in which asset prices seem to vastly exceed fundamentals - events commonly called *bubbles*. Nonetheless, there is very little agreement among economists on what are the economic forces that generate such occurrences. Numerous academic papers and books have been written explaining why the prices attained in a particular episode can be justified by economic actors rationally discounting future streams of payoffs. Some proponents of efficient-markets even deny that one can attach any meaning to bubbles.¹

Part of the difficulty stems from the fact that economists' discussions of bubbles often concentrate solely on the behavior of asset prices. The most common definition of a bubble is "a period in which prices exceed fundamental valuation". Valuation however depends on a view on fundamentals and efficient market advocates correctly point out that valuations are almost always *ex post* wrong. In addition, bubbles are frequently associated with periods of technological or financial innovations that are of uncertain value at the time of the bubble, making it possible, although often unreasonable, to argue that buyers were paying a price that corresponded to a fair valuation of future dividends, given the information at their disposal.

In this lecture I adopt the alternative approach of starting with a more precise model of asset prices that allows for divergence between asset prices and fundamental valuation and that has additional implications that are easier to test empirically. The model is based on the presence of fluctuating heterogeneous beliefs among investors and the existence of an asymmetry between the cost of acquiring an asset and the cost of *shorting* that same asset. The two basic assumptions of the model - differences in beliefs and higher costs of going short - are far from being standard in the literature on asset pricing. For many types of assets, including stocks, there are good economic reasons why investors should have more difficulty going short than going long, but most economic models assume no asymmetry. The existence

¹e.g. Eugene Fama in Cassidy (2010) "I don't even know what a bubble means. These words have become popular. I don't think they have any meaning."