The wisdom - or folly - of following the market crowd

July 2, 2008

Does the market reflect the wisdom of the crowd? Or does irrational behavior mar the possibility of learning anything from the market?

To buy or not to buy. To trade or not to trade. To sell or not to sell. These are the questions faced by investors, traders and other individuals seeking to win fortunes from the stock market. Stock prices rise and fall: that's a given. But what do those risings and fallings suggest about the marketplace? Do they reveal, perhaps, the well-informed views of economic agents? Or are those fluctuations simply the result of herd behavior - that is, one person following another blindly, without any substantive information informing his choice?

These and other questions are explored in *Information and Learning in Markets: The Impact of Market Microstructure*, a major new work by Xavier Vives, professor of economics and finance and academic director of the Public-Private Sector Research Center at IESE Business School.

The question of whether markets actually aggregate information goes back to the 1930s, when Hayek and Lange suggested that this was indeed the case. Keynes, on the other hand, argued that the stock market was little more than a "beauty contest," in which investors tried to pick a winner based solely on whether other people were likely to choose the same. According to Keynes, "short-term speculators, insiders and manipulators" are responsible for the market's highs and lows.

These two diverging views, "informational efficiency" versus "herding," are at the heart of

©IESE Business School

Vives' book, which attempts to explain "aggregation of information and learning in markets with rational agents who understand market conditions and make the most of it." He presents theoretical models to assess various information aggregation mechanisms in a variety of environments.

Theoretical models

Vives first considers an auction, in which traders/investors have only their own private information to draw from. He believes this winner-takes-all scenario does effectively aggregate information. Cournot markets, on the other hand, do not, particularly as the markets get larger. Indeed, in larger markets, price-taking behavior overshadows strategic behavior. Convergence properties are vital to understanding how information aggregation and price-taking play out in large markets.

In less simple market mechanisms, traders/investors can alter their behavior based on prices, an idea called rational expectations equilibrium (REE). Prices play two vital roles: as indices of scarcity and as information conveyors. If a trader has "rational" expectations, he is said to "know the correct model of the functioning of the market - and make optimal inferences from prices - about uncertain and relevant market parameters of the economy." In other words, prices can help traders predict future market events. REE is not a flawless model, and REE can be revealing in various ways: fully revealing, partially revealing or noisy.

A variety of stakeholders is responsible for "making markets," including specialists, dealers, scalpers and floor traders. Traders themselves can place different types of market orders, including market, limit and stop orders. When these orders are placed is critical: order-driven traders place their bids before prices are set, while quote-driven traders bid after they know the pricing. Both systems affect the way markets aggregate information. Particularly in markets where competitive, "informed" traders hold an advantage, it's vital for uninformed traders to mitigate their risks, which often results in caution and a less liquid market. The bottom line? Among competitive traders, some of whom are informed and some of whom are not, prices can still be semi-informative.

Things operate a bit differently among strategic traders, who may place much larger trades. Large traders "will have incentives to acquire costly information because they will refrain from trading too aggressively." Protecting good information is a goal of many traders, since giving away too much informa
tion would give the competition an advantage. These traders aim to minimize their effect on price so as not to reveal too much of what they know. In this case, prices are less informative

©IESE Business School

and the market becomes shallower.

Other learning

Of course, prices are not the only teachers: traders can also learn from other agents and other agents' behaviors. Social learning plays a vital role in any discussion of market information. Learning from others does not always result in the most logical or beneficial outcomes, but it is an inevitable component of the marketplace. In dynamic markets, in particular, agents may eventually achieve full information equilibrium after gaining repeated exposure to public market data and an understanding of market uncertainty. However, the rate of such achievement is variable.

All the models in the world, however, are not fail-proof, and they alone cannot provide a crystal-clear picture of market information. There will always be risk-averse traders who have their own, unshared information, as well as a long horizon in which to operate. Indeed, "different combinations of market microstructure and traders' horizons go a long way toward explaining supposed anomalies in pricing and volume relationships, such as market crashes and booms." Vives presents models to accommodate such variants in the most useful and revealing way possible, and accounts for them in a way that does not simply blame agents for their irrationality.

What does all of this boil down to? Markets have the potential to provide traders with a wealth of information - but that information is not always revealed to its full capacity, nor is it always completely accurate. Understanding the various ways that traders' behavior and knowledge play out in pricing and volume can help financial professionals determine what is and isn't valuable information - and might yield hidden knowledge lurking beneath the market's surface.

©IESE Business School