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## Rationality vs efficiency

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Investors and commentators - if not economists - are increasingly sceptical about the efficient market hypothesis. However, even if markets are inefficient, it doesn't follow that traders are irrational, as a [new survey](#) of learning in financial markets by Lubos Pastor and Pietro Veronesi of the University of Chicago shows.

In one sense, stock markets must be inefficient because prices cannot possibly embody all information. This is because a share price depends upon future cashflows, and information about the future is necessarily elusive. Instead, investors must learn about it from noisy and incomplete signals. Such learning, show Messrs Pastor and Veronesi, can result in behaviour which looks inconsistent with efficient markets, even if everyone is quite rational.

For example, when future cashflows are unknown, an unexpectedly bad trading statement can cause a share price to drop sharply because it could signal that long-term prospects are worse than thought. In this way, prices can be much more volatile than underlying dividends, without investors irrationally over-reacting.

For a similar reason, volatility can be especially high in a recession because economic downturns raise the small probability of a catastrophe which will wipe out future dividends. As investors learn about this probability, prices can swing violently.

Of course, with hindsight, this catastrophe will either materialize or not. If it does, it will look as if investors failed to appreciate the magnitude of the disaster that was looming; think of banking shares in the summer. And if the disaster doesn't materialize, it'll look as if investors were panicking and over-reacting.

But it's perfectly possible to be wrong but rational.

Rational learning can explain another thing that seems inconsistent with efficient markets - the fact that people trade so much even though doing so [loses money](#). This can be rational if the expected gains from learning how to trade exceed the losses incurred whilst



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trading. The efficient market hypothesis assumes traders are fully informed - but how do you become informed?

Of course, the fact that a lot of market phenomena - Pastor and Veronesi's paper discusses other ones - can be consistent with rational behaviour doesn't prove that investors actually are rational. But it does mean that market efficiency and investor rationality can be two different things.

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