Efficient Market

An asset market is *efficient* if the asset is priced correctly—correctly according to economic theory.

There must be no opportunity for economic profit—profit in excess of opportunity cost.

Alternate View

An alternative view is that asset markets are not efficient. Assets are mispriced, sometimes overpriced and sometimes underpriced. Opportunities for economic profit exist.

Fama's Definition of an Efficient Market

Fama [1, p. 383] gives the following definition:

> A market in which prices always "fully reflect" available information is called "efficient."

Asset-Market Equilibrium

A simple interpretation of "fully reflect" is just the basic rate-of-return/present value model of asset-market equilibrium. The expected rate of return equals the market interest rate, and the asset price equals the present value of current and expected future payments.

An asset market is efficient if the asset is priced correctly according to these principles.

In an efficient market, these equilibrium conditions hold at *every moment*, not merely on average.

For example, if the expected rate of return were sometimes above the market interest rate and sometimes below it, then there would exist opportunities for economic profit.

If the asset price were sometimes greater and sometimes less than the present value of current and expected future payments, then there would exist opportunities for economic profit.

Rational Expectations

In an efficient market, the expectations must be *rational*. The expectations are formulated in accord with economic theory.

Readily Available Information

The expectations must properly take into account *all* readily available information, including:

- newspaper, magazine, radio, television news;
- business financial data and press releases;
- government statistics;
- internet information.

At every moment, the asset price must reflect all readily available information.

Competition among Investors

Competition among investors makes the market efficient—makes the asset correctly priced.

If an asset were underpriced, investors would buy it, pushing up the price. If an asset were overpriced, investors would sell it, pushing down the price.

Competition among investors keeps the price correct at every moment.

Analogy

In a grocery store or at a highway toll booth, there is competition among shoppers or drivers, searching for the shortest line. This competition somewhat equalizes the line length. Full efficiency would imply that all lines would be equally long.

Since these lines do not equalize *exactly* in length, perhaps the same situation prevails in a financial market: the market is somewhat efficient.

The price tends to move toward the value implied by economic theory, but may be higher or lower at any particular moment.

Differences

However an asset market is different.

A key difference is that more is at stake. Rather than just saving or losing seconds or minutes in a line, an investor can gain or lose thousands of dollars by incorrect pricing. Hence there is more incentive to seek out and to take advantage of mispricing.

For an actively traded asset, many investors follow the market closely, perhaps thousands of people, not just a handful. The large number of competing investors can make the market very efficient.

References

[1] Eugene F. Fama. Efficient capital markets: A review of theory and empirical work. *Journal of Finance*, XXV(2):383–417, May 1970. HG1J6.