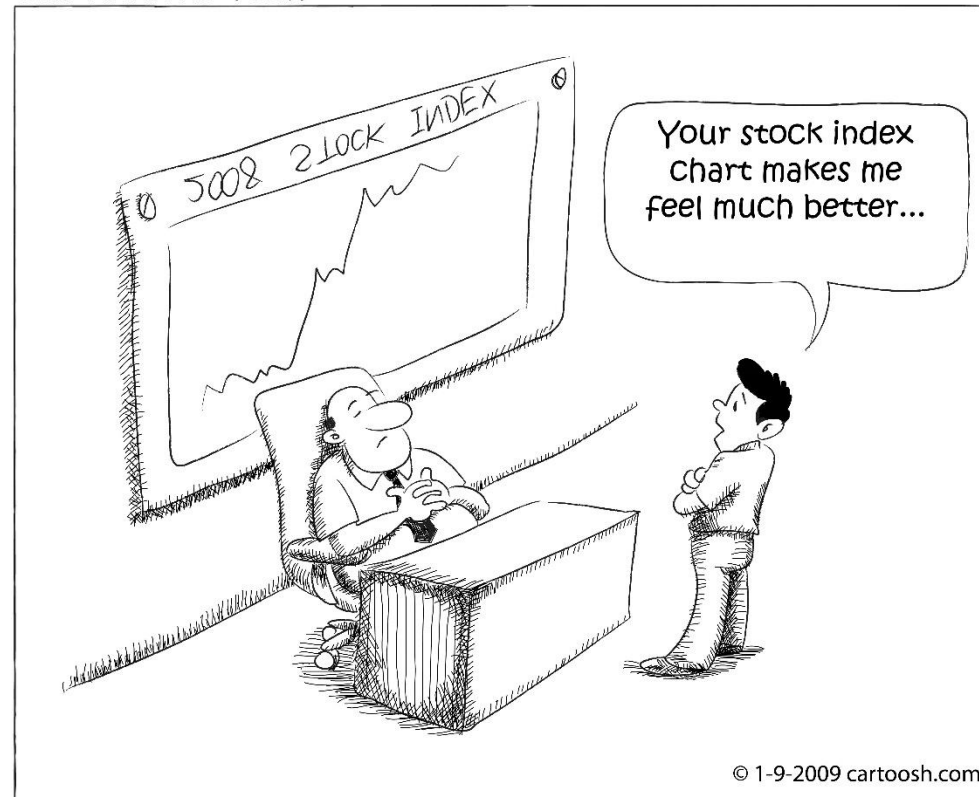


NOBEL PRIZE 2013

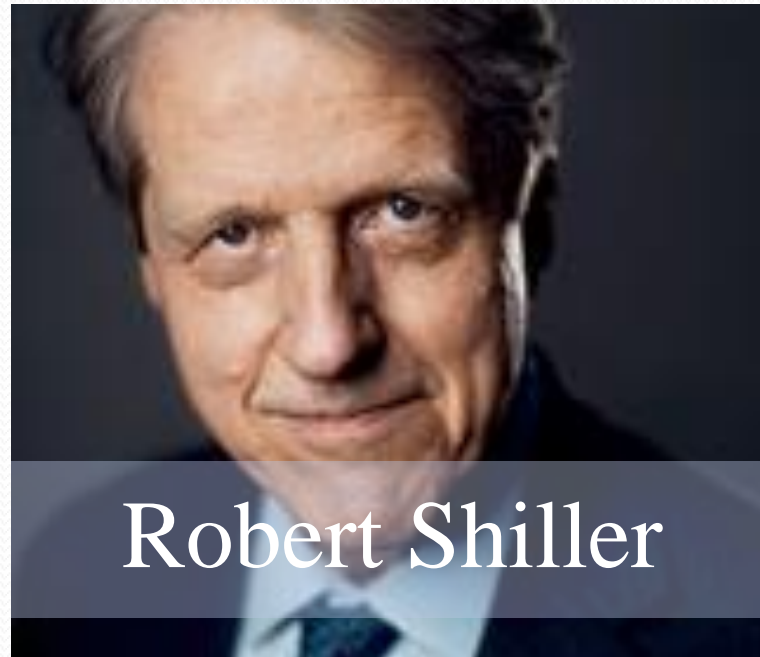
(Eugene Fama, Lars Peter Hansen and Robert Shiller)

Spotting trends in asset markets

Cartoosh's View



Nobel Prize Laureates



Effective-market hypothesis

- Asset markets are informationally efficient: all the relevant information updates expectations accordingly.
- Major versions of the hypothesis
 - Weak
 - Semi-strong
 - Strong

All investors maximize their efficiency according to Rational expectations hypothesis, some investors overreact some underreact.

Investors' reactions are random and have normal distribution, so net effect on market prices cannot be reliably exploited to make an abnormal profit. Returns do not excess average market returns on a risk-adjusted basis.

Forms of the efficient-market hypothesis

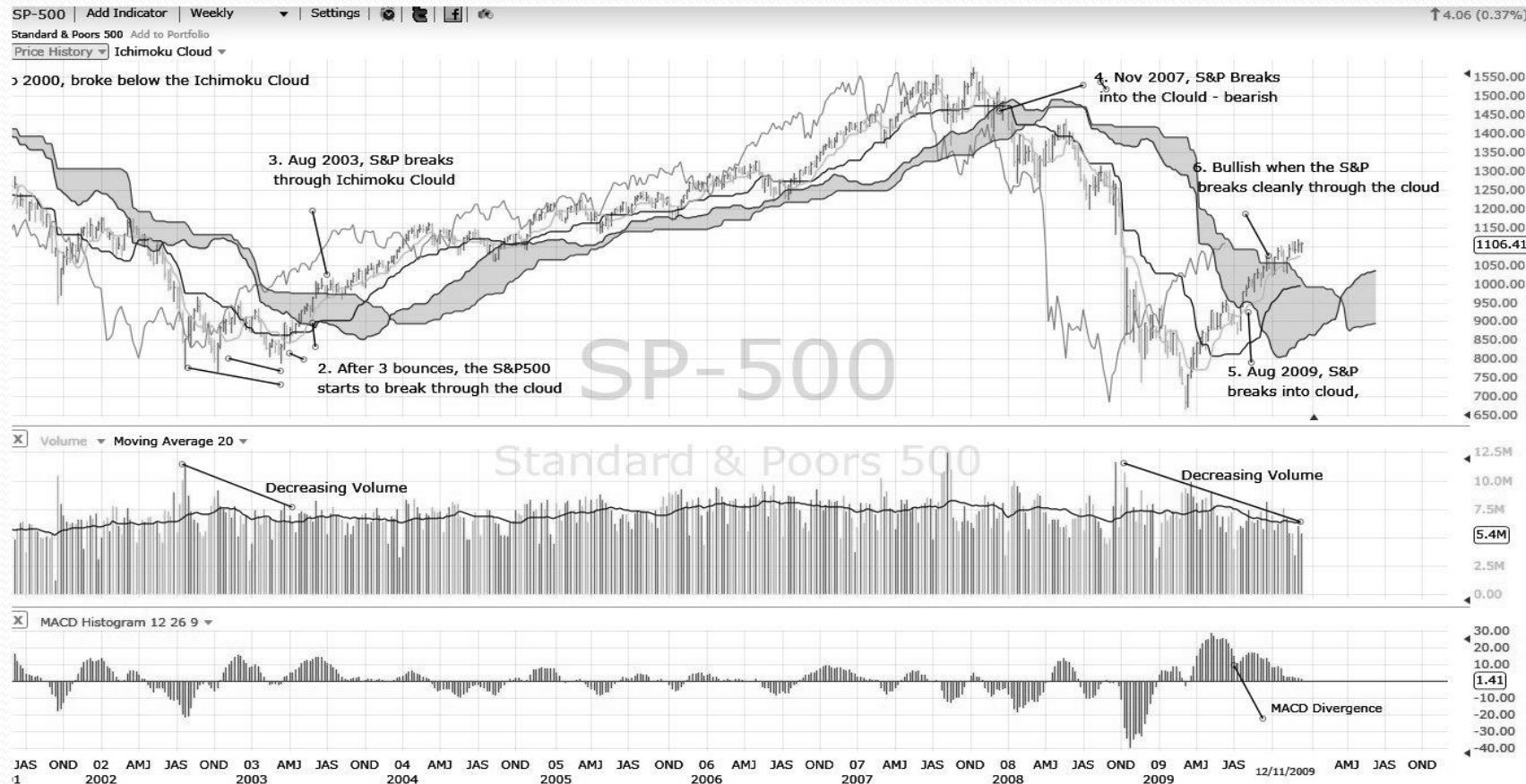
- Weak-form efficiency
 - Future prices cannot be predicted by analyzing prices from the past, technical analysis is not efficient.
 - Prices move depending on information that is not in price, fundamental analysis is possible.
- Semi-strong-form efficiency
 - Prices adjust to publicly available new information very rapidly and in an unbiased fashion, no analysis may reliably produce excess returns. Investors may interpret information in biased and inefficient manner.
- Strong-form efficiency
 - Prices reflect all information, public and private, and no one can earn excess returns

Efficient-market hypothesis critics

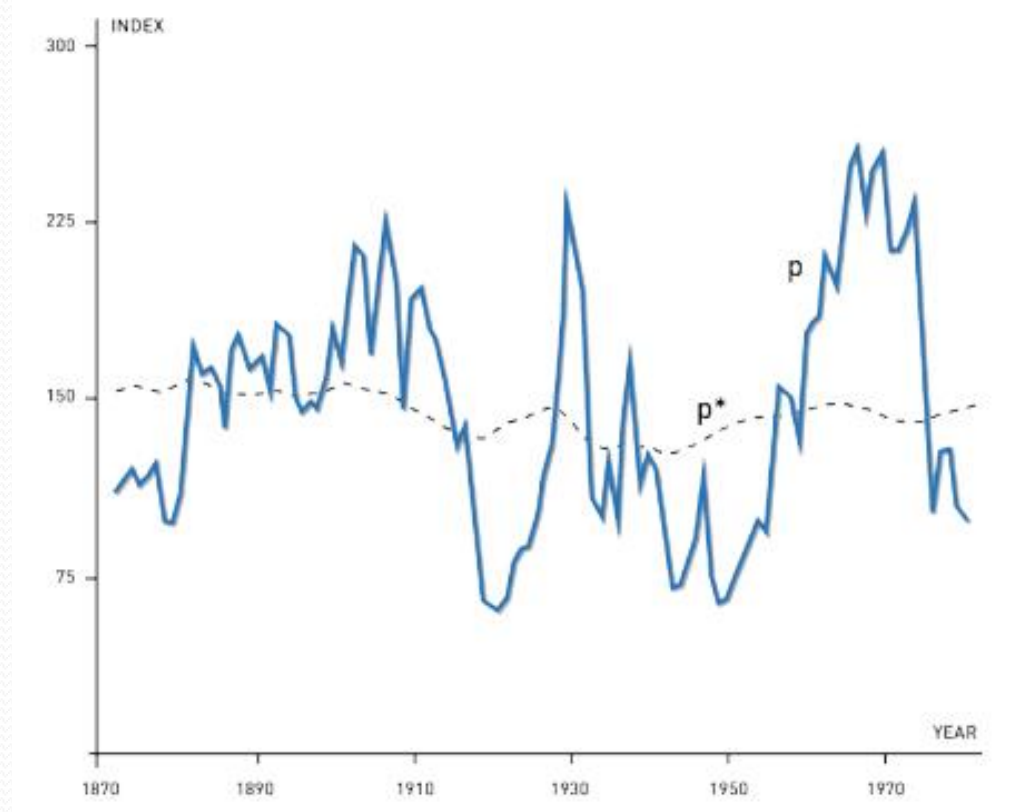
- It is not possible to know all the information because there is hidden and insider information that is now available to all investors.
- It is not possible to describe all the investor's choices with production function, where they have to maximize efficiency. This is simplification because investors act not rationally.
- Empirical evidence generally does not support strong forms of the efficient-market hypothesis.
- Future prices can be predicted by analyzing prices from the past.

ICHIMOKU CLOUD

- A chart used in technical analysis that shows support and resistance, and momentum and trend directions for a security or investment.



Longer-term predictability



Real S&P Index (p) and ex post rational price (dottedline p^*), 1871–1979, both detrended by dividing a long-run exponential growth factor. The variable p^* is the present value of actual subsequent real detrended dividends, subject to an assumption about the present value in 1979 of dividends thereafter.

Irrational behavior

- Irrational behavior explains higher volatility of real market price comparing to expected future dividend's value.
- Shiller made a survey among traders and investors, it's main goal was to find out motivation of trade. This research showed that they mostly act emotionally.
- Standard & Poor's Case-Shiller Home Price Indices are price indices for houses in US. are based on original work by economists Karl Case and Robert Shiller, in which they calculated the home price index back to 1890. Calculations showed that:
 - Price has no connection with construction costs, interest rate, population
 - Market always returns to previous levels

The consumption capital-asset-pricing model

CCAPM is a financial model that extends the concepts of the capital asset pricing model (CAPM) to include the amount that an individual or firm wishes to consume in the future. The beta for consumption attempts to measure the covariance between an investor's ability to consume goods and services from investments, and the return from a market index.

$$\tilde{r} = r_f + \beta_c(r_m - r_f)$$

\tilde{r} = expected return on security

r_f = risk free rate

β_c = consumption beta

r_m = return from the market

In the original CAPM beta is the sensitivity of the expected excess asset returns to the expected excess market returns