Data 88 – Economic Models

Overreaction & Momentum

October 27, 2020

Reading:

- De Bondt, W. F., & Thaler, R. (1985). Does the stock market overreact?. *Journal of Finance*, 40(3), 793-805.
- Jegadeesh, N., & Titman, S. (2011). Momentum. *Annual Review of Financial Economics*, 3(1), 493-509.
- L. Menkhoff, L. Sarno, M. Schmeling, A. Schrimpf, "Currency Momentum Strategies," *Journal of Financial Economics*, **106**, 660–684 (2012).

Behavioral Financial Economics

A capital-market example. *Source: Thaler (2016) and Twitter.*

Jason Zweig (@jasonzweigwsj)
12/17/14, 9:46 AM
fund that doesn't really own anything related to Cuba except the ticker CUBA up 34% today bit.ly/1AptKXM #WSJ

Momentum

Why is momentum important?

1. It is the exact opposite of the mechanism that should ensure efficient markets: reversion to a fundamental value.
2. It validates the *dramatically simple* strategy of *trend following:*
   - buy when price goes up.
   - sell when price goes down.
   - at the heart of the USD 325 billion Commodity Trading Advisor (CTA) industry.
3. It seems universal, both across epochs and asset classes.
4. It reveals an extremely persistent, universal bias in the behavior of investors who appear to hold "extrapolative expectations".

The EMH and information

> *A market is efficient with respect to information set θ_t if it is impossible to make economic profits by trading on the basis of the information set θ_t.*
>
> — *M.C. Jensen (1978).*

— or —

$$E\left(P_{t+1}|\theta_t\right) = P_t\left(1 + \rho_t\right)$$

where

$$E\left(P_{t+1}|\theta_t\right) = \text{ the conditional expected price at time } t+1.$$

$$\rho_t = \text{the required rate of return.}$$

Three Information-Forms of the EMH.

What are the empirical implications of the EMH?

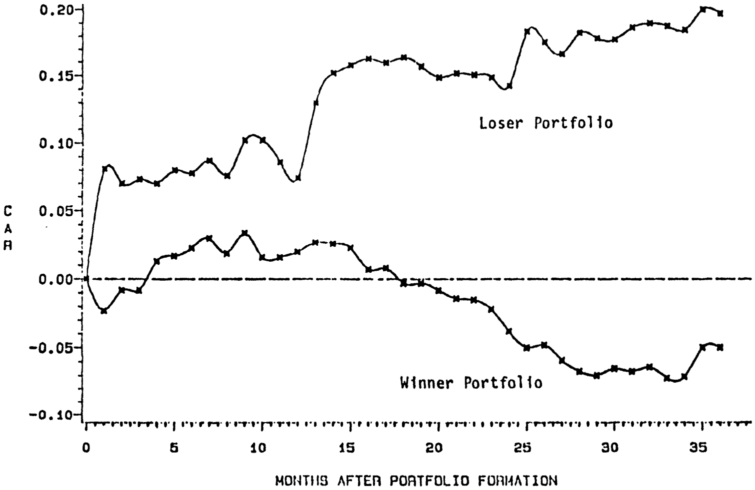
Fama distinguishes three (3) types of information.

This gives rise to three (3) forms of the EMH:

- *Weak form efficiency:* superior risk-adjusted profits are not possible using only past prices.
- *Semi-strong form efficiency:* superior risk-adjusted profits are not possible using *any publicly* available information.
- *Strong form efficiency:* superior risk-adjusted profits are not possible using *publicly and privately* available information.

Empirical challenges to the EMH.

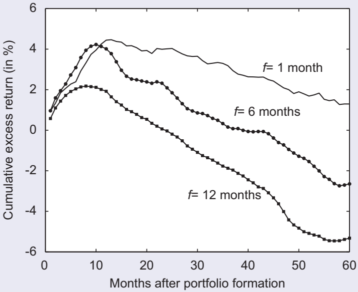
W. de Bondt and R. Thaler, "Does the Stock Market Overreact?" (1985)

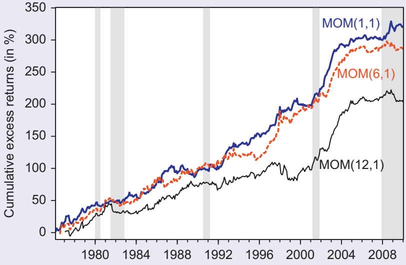


You **can** *outperform using past prices!*

Menkhoff et al. on Currencies: Figures 2 & 4.

Backtesting Results.





Implications of business cycle risk.

- Examined a number of macroeconomic indicators: Consumption, Employment, CPI, Disposable Income ...
- Little evidence that the "usual suspects" have any impact on momentum returns.
- Momentum returns are *largely disconnected* from U.S. business-cycle risk.
- Consistent with results from studies of U.S. equity momentum.

Summing Up

- Underlying the efficient market hypothesis is the notion that if any predictable patterns exist in returns, investors will quickly act to exploit them, until the source of predictability is eliminated.
- *This does not seem to be the case for momentum strategies.*
- These strategies have been well known and have continued to generate excess profits in subsequent years.

The momentum effect represents perhaps the strongest evidence against the efficient markets hypothesis.