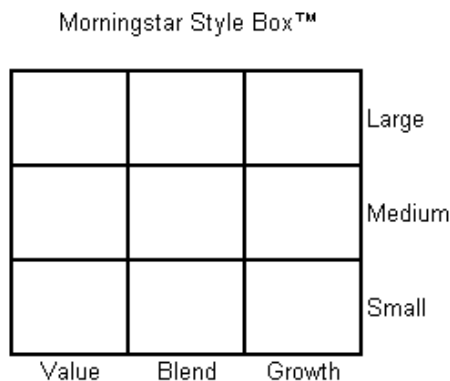


Appendix

Appendix 1: more details about the different types of mutual funds:

The equity funds are divided according to the market capitalization of the companies they are investing in (small, mid or large cap) and according to the style of the stock (growth, blend or value). The value stocks are stocks that may be undervalued with low P/E and low price to book ratio. In contrast with the value stocks, the growth stocks have high P/E and high price to book and they experience a growth that is higher than the market. Finally the funds investing in both types of stocks are called the blended funds. The appendix 2 is an example of a style box that is commonly used to classify the funds according to these 2 variables. The last 2 important characteristics of a fund are whether it is a load or a no-load fund and whether it is an open-end or a closed-end fund. In order to buy a load fund, commissions have to be paid but buying a no-load fund doesn't involve any commissions or initial fees. Regarding the difference between the open-end and the closed-end funds, it is based on the number of shares. There is no restriction on the number of shares that are available for the open-end fund in contrast with the closed-end funds. In consequence, the prices of the closed-end funds will depend on the supply and the demand.

Appendix 2: An example of style box:



Appendix 3: more details about the different types of hedge funds:

There is one main classification regarding the hedge funds dividing them according to their strategies. You have 6 types of funds: the first one is the traditional type, the long / short funds, the second: the market neutral funds that are trying to exploit profit opportunities by going long and short in the same industry, sectors or activity. The third one is the global Market funds that invest in certain country or region following political or economic reasons. Then there are the future funds, managed by CTAs, investing in derivatives and quite often in commodities. Finally the Emerging-market funds invest obviously in emerging markets and the last type of funds are the event-driven funds that invest following certain types of events, such as merger, acquisitions, etc.

Appendix 4: Spearman rank correlation formula:

The Spearman's rank correlation coefficient is defined as:

$$R = 1 - \frac{6 \left(\sum d_i^2 + \frac{1}{12} \text{C.F} \right)}{n(n^2 - 1)}$$
$$\text{C.F} = \sum m(m^2 - 1)$$

Where, n is the number of observations and d_i is the difference in ranks for the different observations between the two periods.

CF is the Correction factors used when some data have the same value and therefore the same rank. m is the number of time the data repeats in the data series.

Bibliography

- Jensen, Michael C.** 1967. "The Performance of Mutual funds in the Period 1945-1964." *The journal of Finance*, 23 (2): 389-416.
- Glode, Vincent.** 2010. "Why Mutual Funds "Underperform"." *Journal of Financial Economics*, 99: 546-559.
- Brown, Stephen J. and Goetzmann, William N.** 1997. "Mutual Fund Styles." *Journal of Financial Economics*, 43 (3): 373-399.
- Chan, Louis K. C., Chen, Hsiu-Lang and Lakonishok, Josef.** 2002. "On Mutual Fund Investment Styles." *The review of Financial Studies*, 15 (5) 1407-1437.
- Plantier, Christopher L.** 2012. "Commodity Markets and Commodity Mutual Funds." *ICI Research Perspective*, 18 (3);
- Gorton, Gary. And Rouwenhorst, Geerst K.** 2004. "Facts and Fantasies about Commodity Futures." NBER Working Paper No. 10595.
- Gruber, Martin J.** 1996. "Another puzzle: the growth in actively managed mutual funds." *The journal of Finance*, 51 (3): 783-810
- Arnold, Julia.** 2013. "Survival of commodity trading advisors: systematic vs. discretionary CTAs" Working paper 12.
- Bhardwaj Geetesh, Gorton Gary B. and Rouwenhorst Geert K.** 2014. "Fooling some of the people all of the time: the inefficient performance and persistence of Commodity Trading Advisors." *Review of Financial Studies*, 27 (11), 3099-3132
- Elton, Edwin J., Gruber, Martin J. and Rentzler, Joel C.** 1987. "Professionally managed, publicly traded commodity funds." *The journal of Business*, 60 (2): 175-199
- Sharpe, William F.** 1966. "Mutual fund performance." *The journal of Business*, 39 (1) Part 2: Supplement on security prices: 119-138
- Berk, Jonathan B. and Green, Richard C.** 2004 "Mutual fund flows and performance in rational markets." *Journal of Political Economy*, 112 (6): 1269-1295
- Moskowitz, Tobias J.** 2000. "Mutual fund performance: an empirical decomposition into stock-picking talent, style, transaction costs, and expenses: discussion." *The journal of Finance*, 55 (4): 1695-1703

Kosowski, Robert. 2011. “Do mutual funds perform when it matters most to investors? US mutual fund performance and risk in recessions and expansions.” *The Quarterly Journal of Finance*, 1 (3): 607-664

Kacperczyk, Marcin., Sialm, Clemens. and Zheng, Lu. 2008. “Unobserved actions of mutual funds.” *Review of Financial Studies*, Oxford University Press for Society for Financial Studies, 21 (6): 2379-2416

O’Sullivan, Arthur. and Sheffrin, Steven M. 2003. *Economics: Principle in Action*. Boston: Pearson Prentice Hall

Mariscal, R. and Powell, A. 2014. “Commodity price booms and breaks: detection, magnitude and implications for developing countries.” Inter-American Development Bank, Working Paper No 444

Tvalchrelidze, Alexander G. 2011. *Economics of commodities and commodity markets*. Nova Science Publisher

Mayer, Jörg. 2012. “The growing financialization of commodities markets: divergences between index investors and money managers.” *Journal of Development Studies*, 48 (6): 751-767

Gilbert, Christopher L. 2010. “How to understand high food prices.” *Journal of Agricultural Economics*, 61 (2): 398-425

Stoll, Hans R. and Whaley, Robert E. 2010. “Commodity index investing: speculation or diversification?” *Journal of Applied Finance*, 20 (1): 7-46

Elton, Edwin J., Gruber, Martin J. and Rentzler, Joel. 1990. “The performance of publicly offered commodity funds.” *Financial Analysts Journal*, 46 (4): 23-30

Blocher, Jesse., Cooper, Ricky. and Molyboga, Marat. 2016. “Benchmarking commodity investments.” Vanderbilt Owen Graduate School of Management Research Paper No. 2744766.

Mayer, Jörg. 2009. “The growing interdependence between financial and commodity markets.” United Nations Conference on trade and development, Discussion paper No 195