REFLECTING ON A NEW THEORY: THE ADAPTIVE MARKETS HYPOTHESIS

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A new book by MIT Professor Andrew Lo brings forward a theory on market dynamics called the adaptive markets hypothesis. Lo suggests this theory adapts thinking from the efficient market hypothesis (EMH) and reconciles the EMH with the reality of markets and human behavior. I had the pleasure of interviewing Professor Lo last week on our "Behind the Markets" podcast with Wharton Professor Jeremy Siegel.

Lo also used to be a Wharton professor, and Professor Siegel recalled fond memories of Lo's early days at Wharton. Siegel also clearly had an impact on Lo, and Lo's adaptive markets hypothesis takes some root in consideration of Siegel's *Stocks for the Long Run*. While Lo believes stocks are good investments over the long run, the human tendency to panic in the short run makes sticking with stocks long term difficult. This is a challenge for Lo, who sees the market as having efficiencies that make it tough to systematically outperform but also leave it vulnerable to episodes in which fear and greed rotate with some irrational behavior.

One formula Lo used in writing about the adaptive markets hypothesis, according to his publisher: "Every formula in the book would yield readership that would be divided by 2." So while his new book has a good amount of length, Lo wrote it to appeal also to a broader, nontechnical audience.

The EMH Democratized Finance but Brought New Risks

Lo discussed how the EMH ushered in the trend toward low-cost passive indexing and was a beneficial move away from actively trying to pick winners and losers. We had an extended conversation on the adaptive markets hypothesis' implications for passive investing and whether too much was passively invested. The short answer from Lo: Not yet. But he does believe the trend toward passive investing is bringing about new systematic risks and liquidity risks and herding in markets so that when everyone wants to get out, the rush to exit will be a problem.

Managing Risks of Passive

Lo believes there is a false dichotomy in the market that active investing entails managing risk but passive investing implies no risk management. He talked about the invention of the first index fund, which originally was going to be equally weighted but due to the complexities of technology involved too many trading challenges for rebalancing.

Market cap weighting, which involved much less turnover, was easier to manage and suitable for the technology of the time. This happened to coincide with the theory of

the EMH that supported the "optimality" of cap weighting, if one believed in the EMH, but Lo emphasized how important technology capabilities restrained other forms of indexing at the time and how different the marketplace is today.

Lo believes investors need to consider how they scale up and scale down their market risk, perhaps with a [volatility](#) targeting approach. While Lo believes it is hard to forecast future returns, he does think one can forecast volatility. He is also a student and follower of technical analysis rules and believes a dynamic indexing approach can help cut off market risk levels. On the podcast, we had an extended discussion about volatility that is worth listening to if you want to hear what factors are driving current low volatility and how sustainable these low levels of volatility are.

Biggest Obstacle for Investors Achieving Good Returns

Lo believes one of the biggest challenges for investors is simply human behavior and the tendency to freak out when markets inevitably fall. While investors would do well to stick with Professor Siegel's mantra in *Stocks for the Long Run*, unfortunately, too many panic, exit the markets and never get back in. Lo's work is trying to help people with more automated solutions to these episodes of market volatility.

Using Financial Engineering for Good

In the concluding segment of our conversation on the podcast, I asked Professor Lo about the closing section of his book, which covers how he thinks financial engineering can be applied to find a cure for cancer. This is a personal mission for Lo as his mother and friends have battled cancer, and he wondered how he could help as a financial economist. Lo found a real bottleneck in funding for cancer drug development and the high costs involved with researching drugs that have miniscule odds of successful development. Lo is looking for new ways to structure portfolio investments and funding for therapies to "get multiple shots on goal" and diversify risks of any single drug not panning out.

Lo wants to show the world that finance can help do a lot of good—it does not have to be a zero-sum game. The discussion on the podcast was a great one, and his book, *Adaptive Markets: Financial Evolution at the Speed of Thought*, provides plenty of stimulus for thinking about the markets in a fresh way.

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DEFINITIONS

Efficient Market Hypothesis : Current share prices correctly reflect all available information about publicly traded firms and continually incorporate the emergence of new information on a nearly instantaneous basis; there are no bubbles, and firms are neither expensive nor inexpensive.

Adaptive Market Hypothesis : a hypothesis for financial markets that reconciles the Efficient Market Hypothesis with principles of behavioral finance.

Passive : Indexes that take a rules-based approach with regular rebalancing schedules that are not changed due to market conditions.

Liquidity : The degree to which an asset or security can be bought or sold in the market without affecting the asset's price. Liquidity is characterized by a high level of trading activity. Assets that can be easily bought or sold are known as liquid asset.

Active : Funds that attempt to outperform the market by selecting securities a portfolio manager believe to be the best.

Rebalance : An index is created by applying a certain set of selection and weighting rules at a certain frequency. WisdomTree rebalances, or re-applies its rules based selection and weighting process on an annual basis.

Market capitalization-weighting : Market cap = share prices x number of shares outstanding. Firms with the highest values receive the highest weights in approaches designed to weight firms by market cap.

Volatility : A measure of the dispersion of actual returns around a particular average level. .