A NEW THEORY, ADAPTED TO TODAY'S FINANCIAL MARKETS - THE THEORY OF ADAPTIVE MARKETS

The main idea behind the adaptive markets hypothesis is that financial markets are governed more by the laws of biology than by the laws of physics.

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Abstract

The Theory of Adaptive Markets proposes a consonant solution for analyzing the financial ecosystem by putting together the theory of efficient markets and the theory of behavioral finance. Behavioral science, which just received three Nobel prizes in its recent teenage years, has the primary place. Thus, the analysis of economic and financial decision-making process must take into account the systemic influence of the human element in its primordial hypothesis in which the evolutionary success is measured by surviving in the competition for profit and jobs in the financial markets.

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In a recent article printed by the prestigious CFA Magazine, MIT professor Andrew Lo (2017) explains the adaptive markets hypothesis and its application to the instruments for allocating the assets of investment portfolios and in the new reality of financial and banking regulation. The academic pacifying argument is that Adaptive Market Theory more precisely triangulates the analysis of the financial ecosystem together with the theory of efficient markets and the theory of behavioral finance. What we find adorable about this Darwinian type theory of economics is the favor of giving behavioral finance science the primary place. Thus, the analysis of economic and financial decision-making process must take into account the human element in its primordial hypothesis of survival in the fierce competition for resources and survival.

The main idea upstream of the adaptive markets hypothesis is that financial markets are governed mainly by the laws of biology rather than the laws of physics or econometric reductionist determinations. Thus, considering financial markets as a fully integrated and

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interdependent ecosystem, it becomes easier to understand the relationship between investment performance and stock market interactions of different types of investors.
The theory provokes with the assertion that there is a natural relentless logic of economic crises and stock market corrections (leading by evolution to the elimination of the inflexible and unfit dinosaur). If so, then we can understand this logic of explanation for human behavior, often non-rational. In behavioral finance we prefer the term non-rational to any other to define the impossibility of framing or predicting, according to the sophisticated logic of financial mathematics, human behavior when the investor is placed in front of the avatars of the markets. If the share price is closer to its intrinsic value (the present value of future cash flows), then what is the source for the unexplained volatility of stock prices? Certainly, future secure incomes are not expected to be as volatile. The model proposed by the adaptive theory is not necessarily more mathematically accurate, but it is more biologically appropriate.

We really like this new, frontier theory of contemporary finance primarily because AMH (Adaptive Market Hypothesis) reconciles and integrates EMH (efficient market theory) with that of behavioral finance. Behavioral anomalies and efficient markets are opposite sides of the same coin: both reflect the dual nature of human behavior. The truth is that sometimes we are rational and sometimes we are emotional. We are usually a bit of both. AMH reconciles efficient markets with behavioral finance in an internally consistent and intellectually satisfying way, creating a more holistic view of markets. So, in this way, the model can prove to be a viable successor to classic finance. But it is an innovative successor who takes both theories and creates a more complete perspective. It does not assume that the initial theories are wrong, they are just incomplete. In addition, the retrospective analysis shows that classical theories do not apply / do not convincingly explain the evolution of markets. AMH shows how two diametric perspectives can happily and productively coexist when we look at human behavior from a biological perspective and financial markets as an integrated ecosystem.

The main idea behind the adaptive markets hypothesis is that financial markets are governed more by the laws of biology than by the laws of physics. There are five fundamental elements of adaptive markets: (1) people act in their own interest; (2) people make mistakes; (3) from these mistakes, people learn, adapt and innovate; (4) as people experience and some people succeed and others do not, the natural selection process works at the level of individuals, institutions and markets just as it does for bacteria, marine animals or chimpanzees; and (5) this evolutionary process of natural selection is the key factor that determines and explains the dynamics of the financial market.

An example: How should assets be allocated between equities and bonds? EMH says that prices fully reflect all available information, so it is of no use to the investor to try to choose winners or losers or to intelligently and informed time the market. Basically, an investor should consider only his / her own risk preferences, age and expectations, income and type of pension or annuity profit and then allocate his assets to shares and bonds strictly to maximize his/her chances of achieving these objectives. AMH starts with the observation that there is no guaranteed return on the equity or bonds. The performance of these financial instruments depends on certain market conditions and these conditions evolve over time. In other words, there are times when the shares will be beneficial to the investor's portfolio and there are times when the bonds will bring more benefit - lower risk

or higher return. So, if the investor's goal is to finally have a certain level of wealth, she must dynamically manage his portfolio of investment and personal assets. When stock markets have a higher expected return, the allocation will be made with a preference towards capital markets; when stock markets are forecast to have a declining yield, the allocation will be more inclined towards bonds. But how can an investor know what the expected returns will look like? By monitoring the entire financial ecosystem - for example, the number of individuals and institutions investing in equities that seek to make money out of less profitable liquidities and to put money into bonds. Thus, approaching financial markets as an ecosystem allows us to understand the relationship between investment performance and the interactions of different types of investors. Professor Lo proposes the pursuit of different species of participants in the financial market. When he calls them "species," he refers in the same way a biologist does. A species is a collection of animals that share certain traits and behave in a similar way. An example is pension funds, which seem to behave in a similar way due to the common character of their legal and financial functions and constraints. Hedge funds also behave in a similar way, although they may differ significantly in their investment style. Institutional investors of the same species seem to have similar behavior.

"*After studying AI (Artificial Intelligence) and trying to algorithmically model various types of financial decision making, I realized that people make decisions just like modern search engines. We have vast data warehouses - the experiences we have encountered in our lives - and we use very simple algorithms to make predictions and decide on actions. I remember what happened in my past circumstances and based on this history of evidence, I will extrapolate the most possible result of the current situation and choose the best course of action*" (Prof. Lo in CFA Magazine, 2017)

AMH applies the framework of evolutionary biology in a specific financial context. A financial analyst, when following the research direction prescribed by the AMH, may finally find different answers than what he would get only from the premise of the market efficiency hypothesis (EMH), or from the behavioral finance perspective.

Conclusions

Adaptive Market Hypothesis applies the evolutionary biology framework in a specific investment financial context. The new theory is proving challenging and seems to succeed in reconciling and integrating the theory of efficient markets with that of behavioral finance. The assumption of adaptive markets is that financial markets are governed mainly by the laws of biology and only secondary to those of physics. Thus, with the help of AMH we reach a more complete perspective of modern investment finance if we look at human behavior from a biological perspective and financial markets as an integrated ecosystem for manifesting this human financial behavior. The model can prove to be a viable successor to classical finance theories.

Bibliography

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