

FOREWORD TO:
***POPULARITY: A BRIDGE BETWEEN CLASSICAL AND
BEHAVIORAL FINANCE***

by Roger Ibbotson, Paul Kaplan, Thomas Idzorek, and James Xiong
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Why does value investing work? Why do other factor strategies work? For that matter, why does *any* active strategy — meaning, any strategy other than cap-weighted indexing — “work” in the sense of having a reasonable chance of beating the cap-weighted index other than by random variation?

THE CLASSICAL ANSWER

The answer could arise in classical finance, or behavioral finance, or both. Classic finance posits that all investors are rational and fully informed. This starting point seems to lead to a recommendation to index all assets, but that is not necessarily where it leads.

While most of classical finance focuses only on risk and expected return, investors differ in their tastes and preferences, and assets differ in their characteristics other than risk and expected return. These observations, which form the basis for the current monograph, are the essence of an article that predates this monograph, written way back in 1984, by Roger Ibbotson, Jeffrey Diermeier (of Brinson Partners, and now the Diermeier Family Foundation), and me.

The article, entitled “The Demand for Capital Market Returns: A New Equilibrium Theory,” incorporates investor preferences, sometimes called clientele effects, into an equilibrium framework conforming to neoclassical economics and classical finance. This framework asserts that economic agents are rational utility maximizers. Classical finance does not say what information agents should *not* look at, as long as they behave rationally.

For example, one investor could be strongly averse to illiquidity while another is not, or one investor may pay taxes at a different rate than another. Everybody’s different. Moreover, we differ in more than just risk aversion, so we’re motivated to hold substantively different portfolios, not just index funds levered up or down to the desired risk level. I’ll revisit these ideas in greater detail later, where I indicate how our 1984 effort links with the current monograph.

But that observation alone doesn’t mean you can beat the market. Now let’s add in the fact that some of the investor groups that like or dislike an attribute common to a group of assets are numerous and control a lot of money. If a large, well-funded group of people avoids (or pays less for) an asset because it has an attribute they don’t like, the asset might be attractively priced from the viewpoint of an investor who doesn’t care about the attribute. An active manager might buy that asset.

A portfolio of assets accumulated according to this rule should beat the market (on average over time). This clientele effect is consistent with both classical finance, broadly understood, and the possibility of adding alpha.

THE BEHAVIORAL ANSWER

Active investment strategies could also work for *behavioral* reasons, in the sense of allowing for the possibility (I'd call it a fact) that not all investor preferences are rational or well informed. Researchers have accumulated a great deal of evidence that investors are *not* fully rational and are *far from* fully informed. They do all kinds of crazy stuff. It seems like it ought to be profitable to take advantage of that fact.

REDUCING THE COMPLEXITY OF THE MARKET

Whichever story you subscribe to, classical or behavioral — and both could apply — the market is very complex, containing far more securities than it is practical to analyze individually. To reduce the units of analysis to a manageable number, researchers and investment managers have compressed securities and their attributes into *factors*, such as value, momentum, liquidity, profitability, and so forth. This technique is well known and I don't need to describe it here.

But the number of factors observable in the markets is still vast, far more so than logic suggests should exist. So it would be a valuable contribution to identify a common theme that links the factors in a way that makes economic sense, consistent with the clientele-driven equilibrium described in the 1984 paper. That is one of the aspirations of the new Research Monograph by my former business associates and friends, Roger Ibbotson and Paul Kaplan, and their current colleagues, Thomas Idzorek and James Xiong. Hereafter IKIX.

The phenomenon that IKIX have identified as explaining a great deal about the cross-section of equity returns is *popularity* or, to stand the question on its head and ask what explains *excess* returns, unpopularity. Specifically, any characteristic that drives away investors — for whatever reason — and causes the demand curve for an investment to shift to the left (meaning less demand) is a characteristic you should seek out. Popularity is not, itself, a factor. It is a framework for understanding and predicting factors.

HOW POPULARITY AND OTHER FACTORS SET PRICES

This monograph incorporates the popularity framework into an equilibrium setting, meaning that the quantity of each asset supplied equals the quantity demanded and all assets are voluntarily held by somebody. Such an equilibrium can apply under the assumptions of either classical or behavioral finance.

As long as aggregate preferences are relatively stable over time, they will play a role in setting asset prices. The preferences can be rational (classical) or irrational (behavioral) or any combination. The investors with weaker aversion to generally disliked characteristics will load up on the less popular stocks, which will have higher expected returns. Those with stronger aversion to those characteristics will willingly accept lower expected returns. Since the equilibrium includes all preferences, the popularity framework provides a "bridge" between classical and behavioral finance.

Want to learn more? Read the monograph, especially Chapter 4, which summarizes the 1984 article. Like Johnny Appleseed, our article scattered the seeds that would grow into various bushes and plants in subsequent decades, and, finally, into the tree that is this monograph.

FROM NEW EQUILIBRIUM THEORY TO THE POPULARITY ASSET PRICING MODEL

We called our proposition NET, new equilibrium theory, partly because it examined returns *net* of all the additions and subtractions for desired and undesired characteristics. At the time, a wag (sounds better than a critic) remarked that, as Voltaire said about the Holy Roman Empire — which is that it was neither holy, nor Roman, nor an empire — our NET was neither new, nor equilibrium, nor a theory.

Of course the wag was mostly correct. NET was just an application of the principles of Economics 101 to finance, so it was not new in any of its elemental parts although the assembly was new. The equilibrium it described isn't fully general. And a theory is an integrated body of knowledge that explains a wide variety of phenomena; while NET meets that philosophical definition of a theory, it didn't have the full mathematical development that it deserved until the current monograph.

Now it *is* a fully mathematized theory, having been crafted into proper form in Chapter 5 of this monograph as the Popularity Asset Pricing Model (PAPM). Combining elements of both classical and behavioral finance, the PAPM follows the rich traditions of neoclassical microeconomics. Specifically, it is based on the following pillars of economic theory as applied to finance:

- 1) *Subjectivism* – The values of assets are not determined solely by their inherent properties. Investor preferences play a major role in determining value.
- 2) *Marginalism* – Each investor constructs his or her portfolio so the marginal contribution of the utility of each asset is equal to the marginal cost of holding the asset, which is its price.
- 3) *Equilibrium* – Asset prices are determined in markets so that all assets are willingly held.

UNDERSTANDING HISTORICAL RETURNS

This author group has, in the past, gathered quite a few of the pieces of modern finance — pieces that, when assembled, begin to explain quite a lot about the way assets are priced and portfolios constructed. Let's start at the beginning: *Stocks, Bonds, Bills, and Inflation*, by Roger Ibbotson and Rex Sinquefeld.

This familiar work, originally published in the University of Chicago's *Journal of Business* in 1976, was released as a book by the CFA Institute Research Foundation in 1977 when it was called the Financial Analysts Research Federation. The book achieved wide distribution and influence. It addresses one of the components of NET theory: risk. How much risk is in each asset class, and what is the market price of each risk? That is, how much compensation in the form of higher return do investors, as a group, require for taking a given amount of risk?

Ibbotson and Sinquefeld, who began this line of inquiry in 1976, answered this question by measuring how much investors *got* as compensation for the various risks in the market. Asserting that investors conform their expectation of reward-for-risk to that which proves achievable in the market, the authors concluded that the realized reward — which, the authors revealed had been quite large for equities as compared with bonds and bills — was a satisfactory indicator of the expected or required reward.

A NEW KIND OF FORECASTING

This insight opened up an avenue for forecasting that had not existed before. Ibbotson and Sinquefeld not only measured the average return on each asset class, and thus on the difference between asset classes — they documented all of the monthly and annual returns. Doing so made it possible to measure the variability of returns, that is, the *amount of risk* for which investors were being rewarded, not just the size of the reward.

By “pricing” risk in this way, Ibbotson and Sinquefeld were able to extrapolate past returns into the future (making an adjustment for interest rates). They not only estimated the mean or expected return on each asset classes; they also forecast the *whole distribution* of potential future returns. They called these extrapolations *probabilistic forecasts*.

We were already used to probabilistic forecasts of the weather, but in investment finance this was something really new and different. Under Ibbotson and Sinquefeld’s influence, probabilistic forecasts have become standard practice in financial planning.¹ “You have an x% chance of earning at least y%,” a phrase that would have baffled most planners before Ibbotson and Sinquefeld did their pioneering work, is now heard everywhere. The emphasis on risk, on deviation from the expectation, is the most important benefit of this approach.

THE SUPPLY OF CAPITAL MARKET RETURNS

But where did the money come from, to provide these rich rewards?

In a companion paper to “The Demand for Capital Market Returns,” the three of us — Jeff Diermeier, Roger Ibbotson, and I — noted that the aggregate return to investors in the capital markets must be set by the amount of profit that corporations can earn in the real economy.²

We called the paper “The Supply of Capital Market Returns.” We observed that corporate profits cannot grow indefinitely (and are unlikely to shrink indefinitely) as a percentage of GDP, so real corporate profit growth should proceed at about the rate of real GDP growth over the very long run.

¹ The historical returns and forecasts were updated on an ongoing basis by Ibbotson Associates, now part of Morningstar.

² This is true, at least, for equities; for bonds, many of which are issued by governments, the dynamic is a little different, but the money has to be generated by somebody for investors to receive it as a reward for taking risk.

Price/earnings ratios also cannot rise or fall indefinitely, so the real GDP growth rate, we argued, is a good proxy for the expected real capital gain of an equity portfolio. In addition, investors receive dividends and other cash payouts such as buybacks, and these are in addition to profit growth because they are paid out of profits and not reinvested in the company. We also have to account for inflation. The sum of all of these inputs gives a supply-side estimate of the return available to investors from capital markets, which is the aggregation of all the individual security returns addressed by the demand-side approach in this monograph.

This author group has produced several more articles on the supply model, including a Graham and Dodd Award-winning article by Ibbotson and Chen [2003], and a fine integrative piece by Straehl and Ibbotson [2017].

THE LIQUIDITY FACTOR

Having established a market price for risk in *Stocks, Bonds, Bills, and Inflation*, the natural next step is to price the other attributes, such as liquidity (which we called “marketability”), that we identified as affecting asset prices in “The Demand for Capital Market Returns.” In this spirit, in an important precursor to the current monograph, Ibbotson, Chen, Kim, and Hu [2013] consider one of the factors in isolation: liquidity. The article asks if the fact that many investors are averse to illiquidity means that illiquid assets offer superior returns to investors who are not so averse to it. In the abstract of the article, the authors write,

Liquidity should be given equal standing with size, value/growth, and momentum as an investment style... [and] is an economically significant indicator of long-run returns. The returns of [the] liquidity [factor] are sufficiently different from those of the other styles that it is not merely a substitute.

The authors backtested a strategy based on this idea and found large excess returns earned by portfolios of illiquid stocks. By subsuming liquidity into the larger category of popularity — there are many reasons why a stock might be popular, liquidity being just one — the authors arrived at the conceptual framework that is presented in this monograph. Ibbotson and Idzorek [2014] and Idzorek and Ibbotson [2017] were the first to specifically name popularity as the embracing concept that included liquidity and other preference-related factors.

As IKIX show using empirical tests, popularity is much more than just liquidity — it includes such components as brand value, competitive advantage, and reputation as well as more conventional factors such as high growth rates, profitability, and high beta. All of these attributes, say IKIX, should be avoided by investors seeking above-market returns because assets that have these characteristics are oversubscribed by other investors. By selecting assets with the *opposites* of these characteristics, investors can expect to earn excess returns.

CONCLUSION: IT'S HARD TO BEAT THE MARKET, BUT NOT IMPOSSIBLE

Investing in stocks or other assets that other people don't want has a long and rich history, proceeding from Graham and Dodd [1934] through Warren Buffett and many scholars, active managers, hedge fund entrepreneurs, and private equity managers. They all take advantage of some aspect of the popularity hypothesis set forth in this monograph.

Yet investing in unpopular assets is hard. First, they're typically unpopular for a reason. Mounting losses instead of bountiful profits, declining market share or a shrinking market for one's product, an unusual loading of debt, and other characteristics that drive investors away are often indicators of continued poor performance rather than of what one value manager optimistically calls "troubles that are temporary." This is the *value trap*, the pitfall that awaits investors who too blindly follow an unpopularity formula.

There's another reason that investing in unpopular assets is hard: active managers, including those believing themselves to be contrarian, engage in herd behavior. Their quantitative screens all tend to identify the same stocks. If managers focusing on unpopular assets have already formed a cluster of demand for an asset — even if that cluster represents a minority opinion — that asset may no longer be attractively priced.

Following the above to its logical conclusion, the well-known fallacy of aggregation comes into play: any strategy or factor that is widely enough used will fail. It is easy to imagine so much money flooding into an unpopularity strategy that there are no longer any unpopular assets. If that were to come to pass, the whole world would become a gigantic closet index fund. We financial economists really do lose sleep over thoughts like that.

Despite these concerns, the market has rewarded value investing and other strategies, such as those advocated in this book, that rely on buying what other investors are avoiding. Value, for example, has won over very long periods of time (back to 1927, say Fama and French) and by an economically significant margin. But this has not been the case recently, when a small number of very large and fast-growing companies have beaten almost everything else. Like all other trends in investing, that one will surely turn sooner or later.

Meanwhile, read this book. It returns the CFA Institute Research Foundation, which is very proud to present it, to its roots in quantitative financial research. And it might contain a key to that most elusive of Greek letters, alpha. Past performance is obviously no guarantee of future results, but it sure is a hint.

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Popularity: A Bridge between Classical and Behavioral Finance will be published by the CFA Institute Research Foundation in the fall of 2018. It will be available as a free download, and as a printed book for a small charge, at <https://www.cfainstitute.org/en/research/foundation/publications>.

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