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# The Academic Finance Papers That Changed My Mind

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## The Academic Finance Papers That Changed My Mind

By [Wesley R. Gray, Ph.D.](#) | May 5th, 2016 | [Research Insights](#) | [10 Comments](#)

What does it mean to be the “best” research? For me, this means the most influential in changing my view on the world. So the below list of “best” research represents the research that 1) changed my view of the world 2) helped sharpen my thinking.

For context, I’ve been reading source journal finance research for over 15 years. In the early days it would take me a week to grasp a paper, whereas now I can catch the drift in less than 10 minutes — read the abstract/introduction, read the tables, and dig in on details when required. I guess there really is a benefit to experience (i.e., getting old), even though this is offset by the cost of frequent hamstring pulls during my

### About The Editors



**Wes Gray**



**Jack Vogel**



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Sunday pick-up soccer game. But what can you do? You take the good with the bad. That's life...

The evolution in my thinking about financial markets worked as follows:

1. **Earliest days:** Value investing is everything. Ben Graham is right. Warren Buffett is right.
2. **Chicago PhD days:** Markets are efficient, anomalies don't exist. Eugene Fama is right.
3. **Current thinking:** Ben Graham and Eugene Fama are both insightful, but neither are "correct." Humans are sometimes biased, but that doesn't imply easy profits—incentives matter. Markets are hyper-competitive, but not perfectly efficient.

Below I outline the papers that were important in shaping the above progression of how I think about the world. Even if you disagree with their implications, and follow the debates—the literature continues to debate these ideas—I still believe they do the best job of describing the world in which we live. Could new theories and ideas come about that put these ideas out of business? Sure. And I'd be the first to embrace these ideas if they get us closer to understanding the "truth" — whatever that is...

So let's begin:

## Big Idea #1: Delegated Asset Management Can Impede Market Efficiency

### The Limits of Arbitrage by Shleifer and Vishny

- [summary and discussion](#)

Milton Friedman describes the [logic behind market efficiency](#): an arbitrageur identifies a temporary mispricing, acts on the price discrepancy with all available resources, and asset prices move to fundamental value (e.g., [Friedman, 1953](#)). Case closed. Smart people like to make money and when they see an opportunity they jump on it.

Shleifer and Vishny question an implicit assumption embedded in the Friedman logic — there are no arbitrage constraints. Shleifer and Vishny, via a basic model, outline the principal-agent problem in financial markets and why this prevents various investment strategies (e.g. value investing or momentum investing) from being easily arbitrated away.

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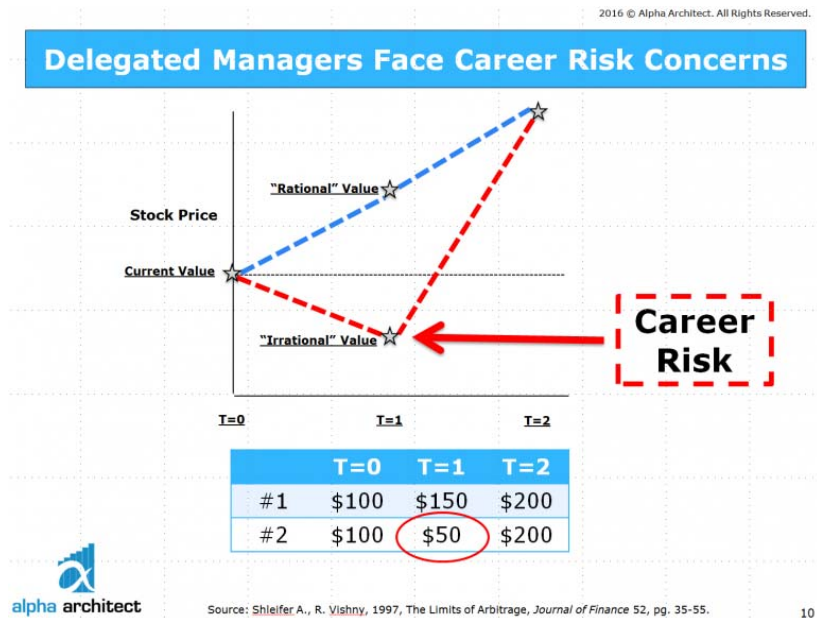
 

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Below is a depiction of their core idea, visualized for easy consumption/understanding.



Essentially, long duration investment opportunities, while attractive in a perfectly rational world with full information, are not necessarily attractive if they make a manager look bad in the short-run, and the investors pull all their money when the manager performs poorly relative to a benchmark in the short-run.

## Big Idea #2: Prices are Determined by Supply and Demand...and Market Frictions

### A survey of behavioral finance by Barberis and Thaler

- [summary and discussion](#)

Nick and Dick (yes, that is their personal conversation names, and yes that rhymes) is really a summary of ideas that emerged from the so-called “behavioral finance” movement. The biggest insight from the summary paper is simple:

- Prices are right **implies** no free lunch
- No free lunch **does not imply** prices are right

This set of statements looks silly on the surface, but goes very deep, and forced me to rethink how I thought about financial markets.

I finally realized that market prices aren’t magically determined by the efficient market gods or fundamentals. Market prices are determined by human beings that buy and

sell stock certificates in the market and these humans have different incentives (some rational; some biased).

Before this paper, my understanding of markets was incomplete. The common logic among efficient market advocates, and what I was conditioned to believe, is that the evidence that mutual fund managers cannot beat the market, implied that market prices must be efficient. The false logic is that nobody can earn extra profits, so therefore prices must be right. Of course, behavioral finance helps us understand why this logic is incomplete. The behavioral theory of markets, which includes an understanding of human decision-making and arbitrage frictions/costs, can explain why markets can simultaneously be 1) wildly inefficient and 2) why mutual fund managers don't earn excess returns. For example, a stock is undervalued by \$1, but the cost to "arbitrage" this undervalued stock is \$1. On net, there is \$0 benefit after costs of exploiting this market opportunity. Because the manager won't arbitrage the inefficiency, there is no "free lunch," but prices aren't efficient, in the sense that they perfectly reflect fundamental value (i.e., they are off by a \$1).

## **What do these big ideas imply about market dynamics?**

Real world market prices are only perfectly efficient in a competitive marketplace when the arbitrage costs are assumed to be zero. But are they? Perhaps a costless arbitrage assumption is too strong. The Barberis/Thaler highlight — arbitrage costs matter — coupled with the discussion of the principal-agent problem associated with delegated asset management from Shleifer and Vishny — an identification of arguably the largest cost of arbitrage (i.e., the fear of getting money pulled) — led me to rethink where opportunity exists in the market. There were really two avenues to pursue:

1. Try to be the smartest guy in the room.
2. Try to lower arbitrage costs relative to the competition.

Strategy #1: Everyone is trying to be the smartest guy in the room. This is a red ocean.

Strategy #2: Few smart guys focus on lower arbitrage costs — especially the one associated with delegated asset management! This is a blue ocean.

A visual depiction of this idea is below and is fully described via our [sustainable active investing framework](#).

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So why are finance professors not billionaires?

**Who is the Worst Poker Player at the Table?**



**Who is the Best Poker Player at the Table?**

**Active is simple, but can't be easy**

How can one capture the red circle of “opportunity?” As mentioned, this “opportunity” is usually a facade because the opportunity is typically worth nothing after considering the arbitrage costs. However, if an investor has lower “arbitrage costs” than the rest of the marketplace, this opportunity is real. For example, one might identify a situation where there is a \$1 mispricing opportunity, but instead of the equilibrium arbitrage costs being \$1, a uniquely situated investor has an arbitrage costs of only \$.50, for a net profit opportunity of \$.50. Now we’re talking!

But how can one lower arbitrage costs? The obvious ones like trading costs have already been exploited. But imagine if an investor could lower the costs associated with the principle-agent problem outlined in Shleifer and Vishny. What if a delegated asset manager focused less on trying to outsmart the other smart guys and instead focused on identifying and developing long-duration client capital that was agnostic to relative performance over short horizons? The risk that clients would pull capital and fire the delegated manager during bouts of underperformance would be reduced. This approach would lower the arbitrage costs associated with the Shleifer/Vishny principle-agent problem and allow this delegated manager and their investors to capitalize on the lower arbitrage costs.

A win-win, in theory. And also an explanation for why our firm mission is to [empower investors through education](#): we don’t invest in massive education efforts and radical transparency

for our health, we do this to improve your long-term expected wealth.

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Here is a runner up for a paper that didn't change my mind, but heavily influenced how I think about the value investing premium.

## **Value investing premiums are not fully explained by extra “risk”**

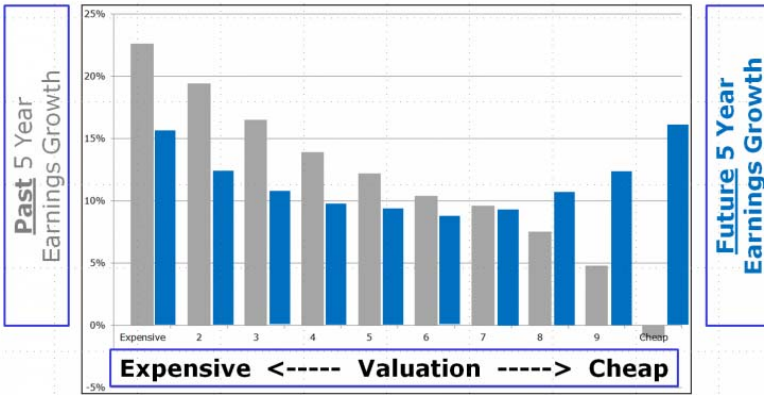
### **Contrarian Investment, Extrapolation, and Risk by Lakonishok, Shleifer, and Vishny**

- [summary and discussion](#)

Ben Graham always argued that cheap stocks beat expensive stocks because Mr. Market is manic-depressive. On some days Mr. Market is happy and pushes stock prices too high; on other days Mr. Market is sad or scared and pushes stock prices too low. Graham is basically outlining a behavioral bias explanation for the “value premium.” Of course, this argument didn't sit well with the efficient markets camp, which hypothesizes (in the semi-strong form) that prices always reflect fundamentals. Perhaps the value premium is driven by higher risk born by investors and not mispricing? [Fama and French 1992](#) hint towards this conclusion and Lu Zhang later posed some [interesting theoretical foundations](#) for this argument. Regardless, this idea didn't sit well with Lakonishok, Shleifer, and Vishny (LSV), who felt that the value anomaly was driven, in part, by a mispricing component described by Ben Graham as “Mr. Market.” The LSV paper is a rigorous attempt to show that the so-called “value investing premium” can't be fully explained by risk, and is likely driven, in part, by an element of behavioral bias.

A visual depiction below:

## Systematic Overreaction?



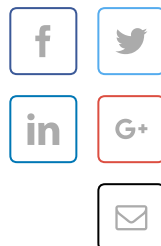
\*The results are hypothetical results and are NOT an indicator of future results and do NOT represent returns that any investor actually attained. Please see disclosures for additional information. Additional information regarding the construction of these results is available upon request.  
 Source: Alpha Architect, LLC (top), Data are from Dechow and Sloan, 1997, Returns to Contrarian Investment Strategies: Tests of the Naive Expectations Hypothesis, *Journal of Financial Economics* 43.  
 Source: Alpha Architect, LLC

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The LSV research — as well as [follow on research](#) — highlight that the value premium cannot fully be explained by additional risk. We make this [clear here](#). Something else is in the water. The degree to which value is due to risk and mispricing is a reasonable debate, but suggesting that mispricing *plays no role* seems unreasonable based on the evidence.

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## About the Author: Wesley R. Gray, Ph.D.



After serving as a Captain in the United States Marine Corps, Dr. Gray earned a PhD, and worked as a finance professor at Drexel University. Dr. Gray's interest in bridging the research gap between academia and industry led him to found Alpha Architect, an asset management that delivers affordable active exposures for tax-sensitive investors. Dr. Gray has published four books and a number of academic articles. Wes is a regular contributor to multiple industry outlets, to include the following: Wall Street Journal, Forbes, ETF.com, and the CFA Institute. Dr. Gray earned an MBA and a PhD in finance from the University of Chicago and graduated magna cum laude with a BS from The Wharton School of the University of Pennsylvania.

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October 25th, 2017 | 0 Comments

**Earnings seasonality and stock returns**

Panel A: Base four-factor regressions

Earnings rank	(VW) Intercept	(EW) Intercept	MKTRF	SS
1 (Low)	0.358*** (2.77)	0.306*** (3.35)	0.948*** (45.68)	0.5 (19.2)
2	0.159 (1.24)	0.278*** (3.37)	1.004*** (53.52)	0.7 (26.3)
3	0.452*** (2.82)	0.291*** (3.43)	1.001*** (51.86)	0.6 (25.6)
4	0.216 (1.69)	0.375*** (4.77)	0.986*** (55.24)	0.8 (25.8)
5 (High)	0.909*** (6.03)	0.653*** (6.98)	0.936*** (44.02)	0.4 (15.6)
5-1	0.551*** (3.14)	0.347*** (3.13)	-0.011 (-0.45)	-0.6 (-2.6)

This table presents the abnormal returns to portfolios formed with a quarterly earnings announcement 12 months ago, we to one year ago by earnings per share (e.g., adjusted for stock rank of the past five announcements from the same fiscal year) sort stocks each month into quintiles according to the distribution corresponding to stocks where the earnings were historically lowest (quintile 1) being historically lower than normal earnings in the and value-weighted portfolios, respectively. We compute the UMD from Ken French's website. In Panel A, all firms with sorting into quintiles based on the *earnrank* variable that measures *earnrank* in the current year and rank the four announce the distribution of *earnrank* in the month in question. In c announcement has the highest relative value of *earnrank* to lowest value of *earnrank*. The data run from October 1972 to the bottom number in parentheses is the *t*-statistic, and  $\sigma^2$ .

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November 6th, 2017 |

## 10 Comments



Alexander Gunnar May 6, 2016 at 3:34 pm

Amazing as always Wesley Gray! I have been learning more from Alpha Architect and you than in



my master degree. Don't know if if this is good or not but I am learning. 😊

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**Joel W** May 6, 2016 at 8:23 pm

Thanks. I enjoyed reading and hope to chase down the papers tomorrow.

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**Pete Nikolai** May 8, 2016 at 11:01 pm

“long duration investment opportunities, while attractive in a perfectly rational world with full information, are not necessarily attractive if they make a manager look bad in the short-run, and the investors pull all their money...”

I would say the same applies to individual investors who decide that those investment opportunities are not attractive if they do not outperform quarter after quarter. The recent less-than-stellar performance of momentum seems to be have reduced the number of vocal adherents substantially—which may be a good indicator that it is about to improve...

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**Michael Milburn** May 16, 2016 at 9:11 pm

Just wanted to say thanks for this post Wes.

This reminded me of Jack Nicholson in \_As Good As It's Gonna Get\_. 😊

Prices are right implies no free lunch  
No free lunch does not imply prices are right

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**Digitking** May 18, 2016 at 2:11 pm

I think everyone should read at least one of the research papers on momentum. Either Carhart's 1997 paper or Cliff Assness Value and Momentum Everywhere are interesting. The fact that momentum is present in almost every asset class (commodities, equities, currencies) is pretty groundbreaking.

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**Wesley Gray, PhD** May 18, 2016 at 2:16 pm

Value and Momentum Everywhere is epic and a must read, however, that paper didn't really change my mind since by the time it came out I already agreed with everything they said. Confirmation bias at work, I'm sure

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**Ainsley To** August 1, 2016 at 5:36 am

Great post Wes

On the chart you've used for "Systematic Overreaction", the very same Dechow paper doesn't seem to show a comparable pattern when using earnings-to-price or cash-to-price to measure cheapness. I assume some of this is due to cyclically depressed earnings in the "expensive" buckets, which display subsequent mean reversion... but would be curious to hear your thoughts and whether you've looked at this in more detail on your end?

Thanks

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**Wesley Gray, PhD** August 1, 2016 at 9:26 am

B/M makes the most intuitive point from a visual perspective and this is the reason we use the graphic from an educational standpoint. As you can imagine, the LSV 1994 paper merely got the conversation started, and there was a bunch of follow-on research (still being debated today and likely forever). In the end, the value premium is probably driven by some extra risk and some mispricing — it isn't an "either/or." For value to be at least partially tied to a "mispricing" story, researchers need to see some sort of systematic and predictable deviations from expectations in the extreme buckets — growth firms never achieve as much as they are forecasted to achieve (and value firms do better than expected). Here are a few examples of follow on research we've highlighted:

<http://blog.alphaarchitect.com/2015/06/24/how-to-make-money-in-markets-understanding->



**Ainsley To** August 4, 2016 at 10:38 am

Thanks Wes, very helpful.

To be honest I always struggle with risk based reasoning for existence of premiums but then I never studied at Booth! I still find the best argument against the existence of a factor as a rational compensation for risk, is a 5 minute conversation with the average investor...



**Wesley Gray, PhD** August 4, 2016 at 11:16 am

True. The argument of mispricing vs risk vs whatever is a great conversation piece and keeps academics in business. But in the end, we play in a market with other participants who perceive "pain" via a variety of channels (rational risk, irrational risk, behavioral, agency problems... and God only knows what else). As an investor we just want to find situations where taking the "pain" off of another investors plate is worth the gain.

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Comments are closed.