

# Pride and Prejudice Around Stock Dividends—Human Psychology vs. Math

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**Taxable investors seeking higher income from their stocks through extra dividend yield may have better choices available.**

Instead of simply increasing the dividend yield of a stock portfolio, investors may be able to implement a simple tax-advantaged selling program to generate the same pre-tax cash flow.

**An investor's motivation for higher yield should be clearly understood.**

Investors may seek higher dividends for perfectly valid reasons, such as an expectation that high-dividend stocks may perform better than the market on a risk-adjusted basis. However, if taxable investors are simply looking for higher cash flow and don't have an opinion on higher-yielding stocks doing better or worse, then a tax-managed withdrawal program may offer better risk and after-tax return.

**Focusing on cash flow is often superior to focusing on income.**

Traditionally, investors have focused on income, which may be an outdated concept, when in fact, what they need is cash flow. By prudently selling securities in a tax-advantaged way, taxable investors can potentially earn better after-tax returns at slightly lower comparative risk by selling stocks than by emphasizing stocks that pay higher dividends.

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Any student of behavioral finance is well familiar with how frequently our brains are wired to lead us to make biased investment decisions that are inefficient or harmful if measured with the cool rationality of mathematics, portfolio theory, and tax economics. Academic research has shown repeatedly how irrational our cherished impulses can be. When it comes to investors living off the income generated by a portfolio of stocks, the irrational measurement and assessment of income can prompt investors to rely on strategies like investing in companies that deliver higher dividends as the best way to increase cash flow. However, that preference reflects an antiquated bias that evolved from wisely avoiding the danger of spending one's capital. Such an approach, though well intentioned, is no longer applicable in the real-time electronic investment world of today.

### Financial Analysis in 1813 vs. 2017

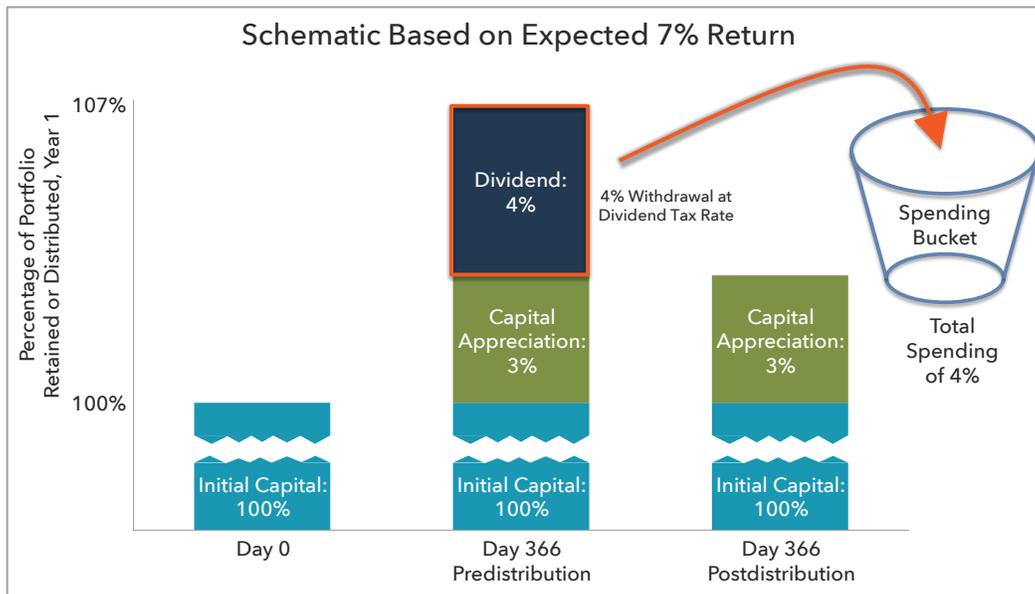
Once upon a time, investors who faced the prospect of living off their incomes faced very limited choices. Think of Mr. Darcy, the character in the Jane Austen novel *Pride and Prejudice*, who was renowned for his income of £10,000 a year. When that book was published, in 1813, if you spent more than your income, then you were dipping into capital and perhaps morally taking the first step on the road to financial ruin. Today, by contrast, income and principal aren't as clearly divided in economic terms as they were 200 years ago, even though they still matter for tax and trust accounting. Today the applicable concepts have evolved instead to liquidity needs and after-tax net worth. Liquidity needs are a very real demand and an important component of living off a portfolio. Fortunately, though, the same liquidity as created with a high-dividend strategy can instead be generated through a careful selling approach that can be more tax-efficient with lower risk.

Let's start with a simple example of a portfolio that consists entirely of stocks that pay no dividends. Portfolio theory, which emphasizes total return, teaches us that for the same level of risk, there's no reason to assume a lower total return for a stock with no dividend, all other things being equal. (Later we'll discuss briefly the concept of dividend yield as a risk factor, a separate concept from expected total return.) Now Mr. Darcy would have not increased his income at all if he were to have added, say, £100,000 worth of a no-dividend stock portfolio. However, his total net worth would have increased, and his total expected return would have increased as well. If Mr. Darcy were to regularly liquidate a small portion of his non-dividend portfolio at the same rate that he earned a return from his income-producing assets, then he would have a cash flow that would match that of an income-producing portfolio, and presumably his portfolio would remain intact. The key assumption here is that the total expected return for a portfolio may be independent of the cash flow it generates in income, a detail that didn't apply to Mr. Darcy's portfolio in 1813.

Total return for stocks can be divided into two components: dividend return and capital appreciation. In our example above, all that Mr. Darcy does is to divide his portfolio differently among these two components. Let's consider an example where we transport Mr. Darcy to today's United States and make him a taxable stock investor. Based on modern portfolio theory, in our example, we'll assume a total return of 7.0% per year on his stock portfolio. Let's

also assume that the market portfolio pays an average dividend yield of 2.5%. Mr. Darcy’s cash flow needs require liquidity of 4.0% per year, and he has informed his advisor as such. In order to get that extra cash, his advisor has invested in a high-yield portfolio generating dividend income of 4.0%, with an assumed 3.0% as capital appreciation to get to a total return of 7.0%. As Chart I shows, we’re assuming Mr. Darcy spends all of that 4.0% and that, as a high-bracket modern taxpayer, he pays the US federal rate of 23.8% on qualified dividends.<sup>1</sup>

**Chart I—Withdrawing Dividends Only**



Mr. Darcy’s liquidity needs are met in the form of his 4.0% dividend yield, and all seems right with the world. However, investment thinking has evolved recently to the extent that this stock portfolio that offers an abnormally high dividend yield would be classified as an implicit “factor tilt” toward higher-yielding stocks. As a side note, Mr. Darcy’s advisor may believe that higher-yielding stocks are a smart factor play and intentionally wants to make that bet, perhaps even counting on the discipline dividends place on company management. If that’s the case, then this portfolio may be an appropriate way to deliver such an intentional preference. Similarly, advisors may also be required for legal or contractual reasons to constrain cash distributions to income, which might reflect certain types of trusts. However, if the advisor is simply trying to create more cash flow and has no opinion on the yield factor as good or bad, then this high-yield strategy can be described as one introducing unnecessary risk versus a market portfolio.

As described previously, let’s suppose that a capitalization-weighted index portfolio with no tilt offers a dividend yield of only 2.5% instead of the 4.0% of Mr. Darcy’s first portfolio. At first blush, the market portfolio wouldn’t provide the necessary income. However, if we define Mr. Darcy’s cash needs by liquidity instead of the more artificial and perhaps outdated concept of “income,” then he can still hold the market portfolio and liquidate enough stock to provide the additional cash flow. As Chart II shows, we can match the same expected return of 7.0%

for a market portfolio but generate the extra cash from the sale of appreciated stock, which includes some realized long-term capital gain. That might appear as sleight of hand to presume the same 7.0% total return even though the dividend yield is lower, but modern portfolio theory teaches us that for the same market risk, stocks with no dividends should produce the same total return as those with dividends.

**Chart II—Withdrawing Dividends and Selling**

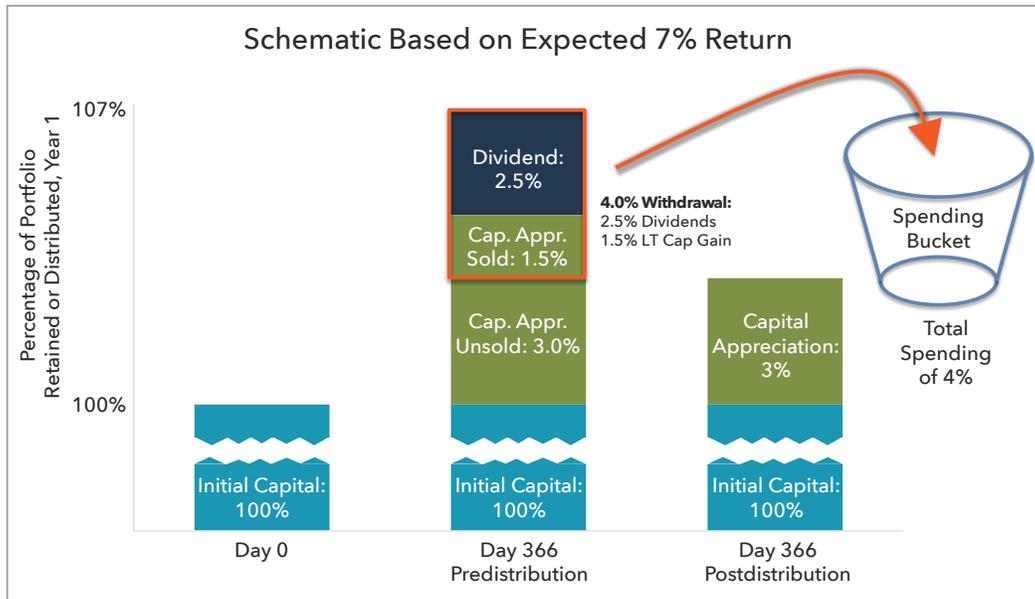


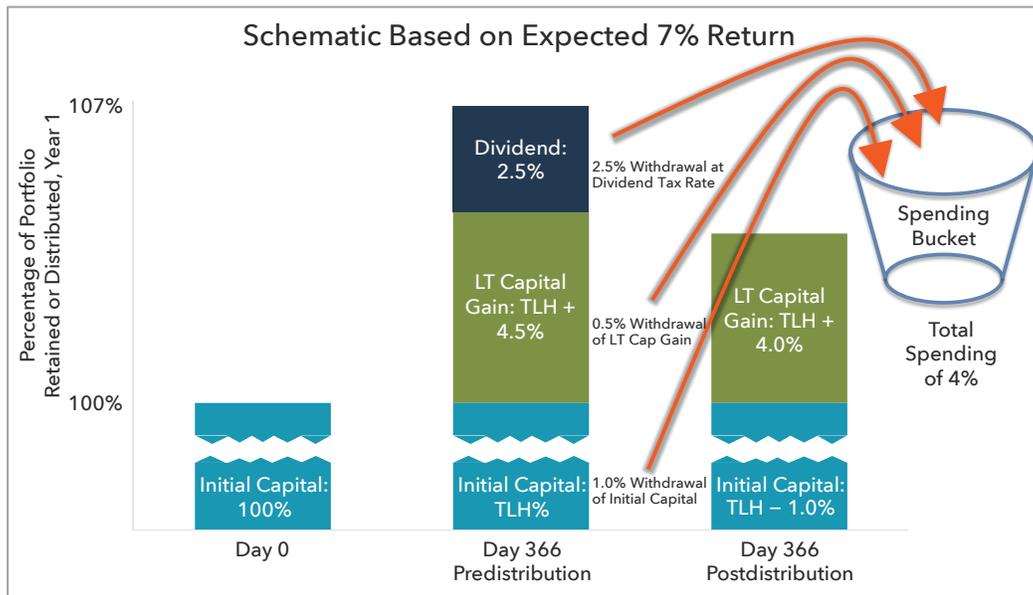
Chart II illustrates how Mr. Darcy can get the same cash flow as before, and if it's long-term gains he's taking, it means the same tax impact as with all of his cash needs coming from the higher 4.0% dividend yield.<sup>2</sup>

If Mr. Darcy were using this approach, he would maintain his pre-tax cash flow as before but eliminate any unintentional risk from a dividend tilt. (That unintentional risk shows up in the form of extra tracking error, a concept we'll explore later.) However, by relying on the commonly used techniques of tax-loss harvesting (TLH), Mr. Darcy can go one step further and lower his tax liability from what he might pay on either strategy shown previously, thus improving his after-tax return.

In Chart III, we get even fancier by keeping the 2.5% expected dividend yield but then using loss-harvesting techniques to minimize the tax impact of the liquidations necessary to generate the extra 1.5% of cash flow needed to get back to the 4.0% liquidity payout Mr. Darcy requires. Whereas in Chart II we're selling the appreciated assets, here we're optimizing the generation of cash to sell as much as possible that's effectively a return of capital, requiring fewer capital gains. Based on a hypothetical 20-year holding period, a portfolio can, on average, over time generate that extra 1.5% of cash but have only 0.5% of that amount taxable, with the remaining 1.0% return of capital. In the chart, the portion from

the return of capital is the most tax-efficient of all ways to generate cash. This method can generate an additional 0.54% per year of extra after-tax return in the form of a lower tax liability.<sup>3</sup>

**Chart III—Withdrawing Dividends and Selling Through Tax-Loss Harvesting**



Let’s summarize the comparison of the loss-harvesting version shown in Chart III with the simpler high-yield portfolio shown in Chart I. Earlier we mentioned that the simple high-yield strategy introduces potentially unnecessary risk in the form of higher tracking error, a measure of comparative risk. The tracking error reflects the forecast likelihood of how much a portfolio will deviate from its benchmark, in this case, the S&P 500®. If we presume that the observed difference (tracking error) is as likely to be positive as negative, then Mr. Darcy’s advisor may be concerned that the high-yield strategy shown in Table I below may mean a greater risk of an unhappy client if the high-yield strategy deviates too much. Both the loss-harvesting and the high-yield strategy can deviate from the benchmark in either direction, but the magnitude of deviation is greater with the high-yield portfolio.

**Table I—Comparison of Strategies**

Approach	Dividend Yield	Withdraw	Total Cash	Tracking Error	Deferral Value vs. High Yield <sup>4</sup>
High Yield (Chart I)	4.0%	0.0%	4.0%	1.74%	0.00%
Withdraw + Harvesting (Chart III)	2.5%	1.5%	4.0%	1.17%	0.54%
Standard Harvesting	2.5%	0.0%	2.5%	1.15%	N/A

Note that the benefits from harvesting presume starting with an all-cash portfolio, where the cost basis equals the market value. The lower the cost basis of the initial portfolio, the more the withdraw strategy looks like the version in Chart II, where all withdrawals are taxed at the long-term gain rate, presuming a cost basis of zero for each sale. Thus the tax benefit from the withdrawal strategy ranges from 0.00% to 0.54%, depending on initial cost basis.

Accordingly, a high-yield strategy that generates a 4.0% yield can be converted into an alternative strategy with less risk as measured by tracking error. In addition to lowering the risk, moreover, we're also improving slightly the tax treatment versus a high-yield strategy. That means clients should embrace this approach, right? To answer that question, we need to return to the psychology of investing and why such a solution may make sense mathematically, but not emotionally, at least at first blush.

### The Behavioral Finance Angle

In the analysis we've addressed so far, we have assumed that a rational investor wouldn't care about the source of cash since it's the amount of after-tax cash flow that should motivate investors. However, many investors would likely view the selling of stocks in order to generate the same cash flow as obtainable through a high-yield portfolio as a dangerous spending precedent. Because the "don't spend principal" mantra has been deeply ingrained at least since the time of Jane Austen, 200 years ago (and, in most cases, for good reason), investors may bring a strongly irrational and counterproductive attitude to the source for additional cash flow. Just because such behavior may be considered irrational doesn't mean it should be dismissed, as all of us investors make at least somewhat irrational choices all the time. Nonetheless, an advisor working with an investor can explain the trade-off between 1) discomfort around what may feel like overspending and 2) the additional tracking error introduced by the high-yield strategy. The investor may be assuaged by modeling the spending pattern versus the portfolio's expected total return over time, perhaps through a Monte Carlo simulation. Then the probability of overspending can be quantified more rigorously than by relying on the simple heuristic of never spending any more than one's income.



Spending Dividends = OK!



Spending Principal = Danger!

The matrix shown below summarizes the varying choices around risk, cash flow, and the danger of overspending (dipping into principal).

**Table II—Decision Choices for Taxable Investors**

Cash Need	Desire to Make Active Bet on High-Yield as a Factor	Solution to Consider	Danger of Overspending
Market yield	None	Normal market portfolio, e.g., index ETF or loss harvesting	Low
Higher than market dividend yield but less than total return for market portfolio	Strong	High-dividend strategy	Low
Higher than market dividend yield but less than total return for market portfolio	None	Loss-harvesting liquidation strategy	Low
Higher than total return for market portfolio	None	Long-term withdrawal strategy to liquidate portfolio over time	High

### Conclusion

Financial tools and our understanding of behavioral finance have evolved a great deal over the past 200 years. Nonetheless, investors and their advisors may still engage in behaviors that reflect accurately the instruments and portfolio tools available to wealthy landowners in 1813 but do not capture the benefits of nuanced tax management and liquidity planning available in the 21st century.

### Additional Resource

[Webcast: Case Study—Dividends vs. Withdrawals](#) (6:56)

(Presenter: Patrick Geddes)

## Endnotes

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<sup>1</sup> 20.0% for the dividends plus 3.8% Medicare tax.

<sup>2</sup> Assumes dividends are taxed at the qualified dividend rate of 23.8% for federal liability (20.0% base rate plus the 3.8% Medicare tax on net investment income), equal to the 23.8% rate on long-term capital gains in cases where the cost basis is zero. We assume that Mr. Darcy could generate such sales on assets held longer than a year.

<sup>3</sup> The benefit of 0.54% per annum presumes that, at the end of the 20-year holding period, the portfolio is passed through an estate or donated to charity. Were the portfolio to be sold at the end of the period, then the harvesting benefit would drop to 0.23% per annum, since the payment of additional capital gain on sale introduces a tax penalty that wouldn't apply to the estate/charity scenario.

<sup>4</sup> The deferral value represents the time value of money from pushing income tax payments further into the future or avoiding them entirely if a portfolio passes through an estate. When comparing the "Withdraw + Harvesting" (W+H) strategy to the high yield, we note that the benefit reflects the average annual improvement in after-tax return from the combination of tax-loss harvesting and raising the additional cash required. Since, on average, the W+H strategy generates some of the additional cash without paying capital gain, it's more tax-efficient than the high-yield strategy, where the taxable investor pays taxes on 100% of the additional cash flow. As shown in Chart III, on average, the 1.5% extra cash needed comes from two sources: 0.5% from sales at a long gain and 1.0% from what is effectively return of capital. As described in the previous note, the annual benefit drops in scenarios where a portfolio is liquidated at the end of 20 years rather than passed through an estate.

## Disclosure

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The S&P 500® Index is an equity benchmark for US stock performance. It is a capitalization-weighted index covering 500 large US companies chosen by Standard & Poor's for market size, liquidity, and industry group representation.

A taxable investor needing to withdraw cash from an account may wish to consider a tax-efficient sell-and-withdraw program rather than a high-dividend-yield-and-withdraw strategy.

## INVESTMENT PROBLEM

Many investors who require consistent cash flow from their accounts may initially gravitate toward higher-yielding portfolios from which they can sweep out the cash that comes from the dividend payments.

However, by using a separately managed account without a dividend-yield tilt, a selling program can achieve the same cash-withdrawal target while leading to fewer taxes now.<sup>1</sup>



For illustrative purposes only.

## EXAMPLE

Consider the following example of two securities (such as a stock or an exchange-traded fund), each of which has a 7% total return in a calendar year, and a client who wants to withdraw 4% of the initial value.

The first security's total return comes from 4% dividends and 3% capital appreciation. The second security's total return derives entirely from capital appreciation.

As shown in the table to the right,\* the first security's approach would involve paying substantially more in taxes for this period.

	Security A	Security B
Initial Value	\$1,000,000	\$1,000,000
Dividend Income	\$40,000	\$0
Unrealized Gain	<u>\$30,000</u>	<u>\$70,000</u>
Current Value	\$1,070,000	\$1,070,000
<b>Cash Withdrawal</b>		
Dividends Withdrawn	\$40,000	\$0
Security Sold & Withdrawn	<u>\$0</u>	<u>\$40,000</u>
Total Cash Withdrawn	\$40,000	\$40,000
<b>Taxes</b>		
Realized Gain	\$0	\$2,617
Taxes on Dividends	\$9,520	\$0
Taxes on Realized Gains	<u>\$0</u>	<u>\$623</u>
<b>Total Taxes</b>	<b>\$9,520</b>	<b>\$623</b>

## HIGH-DIVIDEND-YIELD STRATEGIES: HIGHER TAXES & HIGHER TRACKING ERROR

Aperio can offer a high-dividend-yield tilt on client accounts, and we typically target a dividend yield of 1.5 times the benchmark yield. This yield tilt seeks to provide greater *income*—but greater income comes with greater *income tax*. Moreover, the yield tilt adds to the active risk of the portfolio.<sup>2</sup> Clients who are restricted (by contract) from spending anything other than income will have more spending available from portfolios that deliver higher income.

### Taxes and Qualified Dividends

Dividends paid by most companies can qualify for a lower tax rate than non-qualified dividends. While non-qualified dividends are taxed as ordinary income (top federal marginal tax rate of 43.4%), qualified dividends are taxed at the long-term capital gains rate (top federal marginal tax rate of 23.8%).<sup>3</sup> Thus, most dividends and long-term capital gains are currently (August 2017) taxed at the same rate. Going forward, any changes in tax rates may impact these calculations, and given the long-term nature of these strategies, investors may wish to consider this risk.

## PAY TAXES NOW, OR PAY TAXES LATER

Under the current tax code, for dividends, taxes are paid now. With capital gains, taxes are paid only when the gains are realized. However, over the lifetime of a liquidated account, taxes will be the same on total dividends and total realized capital gains—unless the account is not liquidated due to a step-up in basis or a donation.

## SUMMARY

A simple selling program in an Aperio account may be more tax-efficient and less risky than a high-dividend-yield strategy.

Unless a client is restricted from spending anything other than income, the client may prefer to skip a dividend-yield tilt and instead utilize a selling program due to better tax efficiency, lower taxes, and the option of forgoing taxes through a future step-up in basis or charitable donation.\*

## ADDITIONAL RESOURCE

[Webcast: Case Study—Dividends vs. Withdrawals](#) (6:56)

### Dividends, Capital Gains, and Total Returns

The efficient-markets hypothesis<sup>4</sup> informs us that dividend-paying stocks and non-dividend-paying stocks have the same expected total return (capital gains plus dividends before taxes), all other things being equal, because any dividend payment is offset by a reduction in stock price.

However, differences occur on an after-tax basis, since the dividends are taxed in the year they are received, while capital appreciation isn't taxed until securities are sold. Thus, until an account is fully liquidated, the lower-dividend-yield security will have a higher after-tax return.

### Timing of Cash Withdrawals\*

The sweeping of dividends out of an account leads to inconsistent cash flow due to the variability of companies' schedules for paying dividends. Instead of sweeping out dividends, an investor who reinvests dividends while using a consistent selling program may realize marginally higher returns by being more fully invested during periods of rising markets.

## Notes

\*This example is hypothetical and is provided for illustrative purposes only. It does not reflect the experience of any actual investor and should not be relied upon to make investment decisions. Actual results may vary. This is not a recommendation to buy or sell any security. All investments are subject to the risk of loss.

<sup>1</sup>Prior to any future liquidation, the high-yield strategy will always be less tax efficient than the sell-and-withdrawal program unless the portfolio has a cost basis of exactly zero. At liquidation, if we assume that a high-yield strategy and a nontilted strategy have produced the same pre-tax total return since inception, then the income plus gains in one will equal the income plus gains of the other. If all dividends are qualified, then the taxes on the two portfolios over their lifetimes are the same—but the high-yield strategy pays the taxes faster.

<sup>2</sup>Aperio analysis of a global model portfolio, benchmarked to the MSCI ACWI as of July 31, 2017, showed a high-dividend-yield tilt increased tracking error by 0.32%.

<sup>3</sup>20.0% for the dividends plus 3.8% Medicare tax. [www.irs.gov/publications/p17/ch08.html](http://www.irs.gov/publications/p17/ch08.html).

<sup>4</sup>Developed by Eugene Fama.

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