Do Divergent Opinions Explain the Value Premium?

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Over the long run, value stocks tend to outperform growth stocks. This is the central tenant of value investing. The power of value investing was recognized as early as the 1930s, with Graham and Dodd's seminal book, *Security Analysis*. Since then, many successful investors attribute their success to value investing, with self-made billionnaire Warren Buffett being its most fervent advocate. Ordinary investors also show great faith in value investing, as evidenced by the trillions of dollars in thousands of funds that claim to primarily invest in value stocks. A recent search on Amazon.com for "value investing" returns 4,632 books on the topic. Simply put, the idea of value investing is pervasive.

While there is little dispute about the existence of the superior long-run performance of value stocks,[1] there is much dispute regarding the cause or reason for such performance. What is the underlying cause of the value premium? Given the formidable size of investments that are tied to the value-investing philosophy, understanding its potential cause(s) is an economically significant endeavor.

Proponents of rational pricing argue that the value premium reflects compensation for additional risk(s) associated with value firms (e.g., Fama and French [1993] and [1996]).[2] However, for the risk explanation to successfully account for the value premium, these extra risk(s) must be identified. Ang and Chen [2007] suggest that the book-to-market effect documented in prior studies is simply the result of impotent statistical analysis. Using a more advanced approach, they find no book-to-market effect within the one-factor CAPM framework. Fama and French [2006] suggest that their results are special to their sample. Moreover, beta unrelated to the book-to-market goes unrewarded, which is inconsistent with the prediction of CAPM.

Fama and French [1995] suggest that value stocks have higher bankruptcy risk or distress risk. They show that value stocks have persistently lower earnings than growth stocks. However, empirical evidence on the relation between distress risk and stock returns does not support the hypothesis that distress risk is positively associated with future returns (Dichev [1998]). Griffin and Lemmon [2002] find that, controlling for distress risk, the value premium still exists and is especially high among high distress stocks.

Zhang [2005] argues that value stocks are riskier than growth stocks because they have more assets in place that are costly to reduce when the economic environment becomes harder. On the other hand, growth options, which are more important for growth stocks, are much easier to reduce. Petkova and Zhang [2006] find that value betas co-vary positively while growth betas co-vary negatively with the expected market risk premium. This evidence suggests that value stocks are riskier than growth stocks. However, they admit that this time-varying risk is too small to explain the magnitude of the value premium observed.

Recently, Doukas et al. [2004] propose that *divergent opinions* are the missing risk factor. Specifically, they conjecture that "(w)hen the future prospects of stocks are highly uncertain and beliefs diverge, investors will demand high rates of return in order to invest" (page 56). Using analysts' forecast dispersion as a proxy for divergent opinions, they document that value firms have higher forecast dispersion (i.e., higher divergent opinions) than growth firms. They suggest that the value premium is at least partially due to value (growth) firms' greater (lesser) exposure to the risk of divergent opinions.

Doukas et al.'s finding is consistent with the divergent opinions explanation, but it does not lend *direct* support to the hypothesis. As will be discussed in detail shortly, the theoretical predictions regarding the relationship between divergent opinions and stock returns are anything but conclusive. In fact, existing empirical evidence seems to suggest that there is a negative association between divergent opinions and future stock returns; that is, stocks with higher divergent opinions tend to *underperform* those with lower divergent opinions. This article further explores the divergent opinions explanation for the value premium by directly examining how divergent opinions affect value and growth stocks' future returns. Specifically, we examine whether value (growth) stocks with higher divergent opinions outperform those with lower divergent opinions.

Extant theories have conflicting predictions on the relation between divergent opinions and stock returns. For instance, Williams [1938], Williams [1977], and Mayshar [1983] theorize a positive association between divergent opinions and future stock returns, arguing that more divergent opinions indicate more uncertainty and that investors require a premium to hold stocks with more uncertainty. This is the theory that motivates Doukas et al.'s [2004] study. However, Miller [1977], Morris [1996], and Chen et al. [2002] argue that firms with higher divergent opinions should earn lower returns. Assuming that average opinions are rational and costs of short sales are sufficiently high, these studies posit that firms with more divergent opinions are more likely to be overvalued because stock prices are set by investors who are the most optimistic about the firms. Lastly, a third camp of studies, represented by Diamond and Verrecchia [1987] and Hong and Stein [2003], produce models that predict no relation between divergent opinions and future stock returns—where powerful rational arbitrageurs essentially arbitrage away any potentially persistent misvaluations.

Empirical evidence is also inconclusive. Using analysts' forecast dispersion as a proxy for divergent opinions, Diether et al. [2002] find a *negative* (unconditional) association between divergent opinions and future stock returns. However, using a different sample, Zhang [2006] finds a statistically insignificant (unconditional) association between divergent opinions and future stock returns.

The above discussion suggests that neither extant empirical evidence nor theoretical modeling has been able to solve the issue of whether divergent opinions are the underlying cause of value stocks' superior future stock returns. This article contributes to the literature by directly testing the divergent opinions explanation of the value premium. Importantly, the basis of our empirical investigation is motivated by the insight that the divergent opinions explanation does not need to rely on a positive *unconditional* relation between divergent opinions and expected returns (as Zhang [2006] and Diether et al. [2002] conduct). Indeed, as long as divergent opinions are positively associated with expected returns *within portfolios* of value and growth stocks, divergent opinions can at least partially explain the value premium.

Using an extended sample (1983–2004), we begin our investigation by successfully replicating the Doukas et al. finding that value stocks have higher divergent opinions (i.e., higher analysts' earnings forecast dispersion). However, when we extend their work by examining the association between divergent opinions and future stock returns, we find no evidence that value (growth) stocks with higher divergent opinions earn higher returns than those with lower divergent opinions. If anything, stocks with higher divergent opinions seem to earn *lower* returns relative to stocks with lower divergent opinions. Overall, our results suggest that value stocks do have greater divergent opinions, but this fact does not explain why they earn higher returns in the long run. Our findings therefore contribute to the ongoing debate about the potential causes of the value premium, and particularly help clear up whether divergent opinions are a possible cause, as some studies suggest. Our findings suggest that divergent opinions do *not* explain the value premium.

SAMPLE SELECTION

We obtain our sample from three sources. Corporate financial data such as book value, earnings, and operating cash flows are collected from Compustat. Market capitalization and monthly return data are collected from CRSP. Analysts' forecasts are retrieved from the I/B/E/S U.S. Detail History dataset. We require our sample firms to be listed on the New York Stock Exchange, American Stock Exchange, or NASDAQ.[3]

Following Doukas et al. [2004], we use analysts' one-year forecasts issued 1) in June or 2) in April and May but last confirmed in June to compute forecast dispersion. Dispersion is the standard deviation of the analysts' forecasts scaled by the stock price at the beginning of the year. We require each sample firm to be followed by at least two analysts to compute the dispersion.

Portfolios are formed at the end of June of year t. Following Fama and French [1993], we construct value/growth portfolios based on the book-to-market ratio (B/M), where both the book value (B) and market value (M) of equity are measured at the end of fiscal year $t - 1$. The size of the firm is measured by its market capitalization at the end of June of year t. Firms with negative book values or extremely small firms (i.e., book value or market value less than 1 million) are removed from the sample. Portfolios are held for 12 months starting from July of year t to June of year $t + 1$.

One major difference between our sample selection and that of Doukas et al. [2004] is that we restrict our sample to firms with December fiscal year-ends in year $t - 1$, while Doukas et al. [2004] do not have this restriction. We impose this restriction for two reasons. First, without controlling for time horizon, forecast dispersion can reflect uncertainty as well as proximity to fiscal year-ends. For example, suppose two firms are identical in all aspects except that one firm's fiscal year-end is July and the other's is December. When both firms' forecast dispersion is measured at the end of June, forecast dispersion for the December year-end firm should be higher than that for the July year-end firm simply because analysts have less information about the December year-end firm. Second, using solely December year-end firms more effectively simulates real trading, since year t information for firms with fiscal year-ends from March to May might not be available by June. If investors want to trade on those firms, they have to rely on year $t - 1$ information, which could be severely stale. Nevertheless, in robustness tests, we show that including firms with non-December year-ends does not materially change the results.

The sample period starts from 1983, the first year of availability for the I/B/E/S dataset, and ends in 2004. The interaction of Compustat and CRSP generates a sample of 58,574 firm-year observations. Requiring enough data to compute forecast dispersion reduces the final sample to 24,969 observations.

EMPIRICAL RESULTS

In this section, we first reproduce Doukas et al. [2004] results using our sample. We then perform both univariate and multivariate tests to investigate the relationship between divergent opinions and stock returns.

Do Value Firms Have Greater Divergent Opinions?

Exhibit 1 reproduces Doukas et al. [2004] results using our sample. This exercise is to examine whether Doukas et al. results are robust to different samples. Following the standard procedure in the literature, we independently sort all sample firms with B/M and size information into equal-size B/M and size quintiles each year, where Q1 (Q5) indicates the quintile with the lowest (highest) value of the sorting variable. All firms are thus sorted into 25 B/M and size portfolios. It is important to note that Doukas et al. use only firms with forecast dispersion data to construct the B/M and size portfolios. Our less-restrictive approach is motivated by the fact that many firms do not have analyst forecast data, so restricting the sorting to firms with forecast data significantly reduces the sample and may potentially bias or change the characteristics of value and growth stocks. Nevertheless, in unreported robustness tests, we use the Doukas et al. procedure to construct B/M and size quintiles, and the results are unchanged.

We report the mean and median analysts' forecast dispersion for each portfolio, as well as the number of firm-year observations in each portfolio. Consistent with Doukas et al. [2004], we find that both the mean and median forecast dispersion increase monotonically with B/M quintiles, suggesting that value firms have higher forecast dispersion. For example, the mean (median) forecast dispersion for the lowest B/M quintile is 0.0050 (0.0018), while the mean (median) forecast dispersion for the highest B/M quintile is 0.0153 (0.0072). The differences in both mean and median forecast dispersion between the highest and lowest B/M quintiles are statistically significant at the 0.01 level. Both the mean and median forecast dispersion decrease monotonically with firm size, indicating that small firms have higher forecast dispersion. For example, the

EXHIBIT 1

Analysts' Forecast Dispersion for Portfolios Sorted Independently on B/M and Size, 1983–2004 Data

B/M Quintiles	Size Quintiles Q1 (small)	Q2	Q3	Q4	Q5 (large)	All Firms	Q5-Q1
Q1 (Low)	0.0130	0.0088	0.0064	0.0055	0.0026	0.0050	-0.0104***
	0.0061	*0.0042*	*0.0030*	*0.0021*	*0.0012*	*0.0018*	*-0.0049****
	(131)	(527)	(1,024)	(1,589)	(2,175)	(5,446)	
Q2	0.0108	0.0088	0.0071	0.0057	0.0041	0.0058	-0.0067***
	0.0055	*0.0042*	*0.0032*	*0.0026*	*0.0020*	*0.0025*	*-0.0035*
	(176)	(565)	(1,222)	(1,805)	(2,388)	(6,156)	
Q3	0.0114	0.0094	0.0073	0.0058	0.0056	0.0066	-0.0058***
	0.0051	*0.0043*	*0.0041*	*0.0032*	*0.0033*	*0.0035*	*-0.0018****
	(139)	(572)	(1,156)	(1,842)	(1,901)	(5,610)	
Q4	0.0167	0.0117	0.0089	0.0076	0.0073	0.0086	-0.0094***
	0.0084	*0.0054*	*0.0046*	*0.0043*	*0.0043*	*0.0046*	*-0.0041****
	(197)	(536)	(960)	(1,495)	(1,450)	(4,638)	
Q5 (High)	0.0226	0.0176	0.0157	0.0141	0.0124	0.0153	-0.0102***
	0.0081	*0.0071*	*0.0080*	*0.0071*	*0.0065*	*0.0072*	*-0.0016*
	(254)	(513)	(780)	(789)	(783)	(3,119)	
All Firms	0.0159	0.0112	0.0086	0.0069	0.0053	0.0075	-0.0106***
	0.0067	*0.0049*	*0.0041*	*0.0032*	*0.0024*	*0.0032*	*-0.0043****
	(897)	(2,713)	(5,142)	(7,520)	(8,697)	(24,969)	
Q5-Q1	0.0096***	0.0088***	0.0093***	0.0086***	0.0098***	0.0103***	
	0.0020	*0.0029****	*0.0050****	*0.0050****	*0.0053****	*0.0054****	

Notes: Analysts' forecast dispersion is the standard deviation of analysts' forecasts made in June, or made in April or May but last confirmed as current in June. All forecasts are scaled by stock price at the beginning of the year. The mean and median (in italic) forecast dispersion and the number of observations (in parentheses) are reported. The last column reports the differences in mean and median (in italics) forecast dispersion between the top size quintile and the bottom size quintile. The last row reports the differences in mean and median (in italic) forecast dispersion between the top B/M quintile and the bottom B/M quintile. T-test (Wilcoxon rank-sum test) is used to test the significance between the means (medians).

, **, and * indicate 10%, 5%, and 1% significance levels, respectively.*

mean (median) forecast dispersion for the smallest size quintile is 0.0159 (0.0067), but it decreases to 0.0053 (0.0024) for the largest size quintile. The differences in mean and median forecast dispersion between top and bottom size quintiles are statistically significant. This result is consistent with the intuition that small firms' prospects are more uncertain than those of large firms.

Moreover, conditional on size, forecast dispersion also generally increases with B/M quintiles. Both the mean and median forecast dispersion of the highest B/M quintile are significantly higher than those of the lowest B/M quintile, regardless of the controlling size quintile. Similarly, conditional on B/M quintiles, forecast dispersion continues to decrease with firm size. Firms in the smallest quintile always have statistically higher forecast dispersion than those in the largest, regardless of the controlling B/M quintile. Collectively, we confirm Doukas et al. results using a different sample, suggesting that their results are robust.

Forecast Dispersion and the Value Premium

Doukas et al. [2004] find that value firms have higher forecast dispersion than growth firms, and our results are consistent with theirs. Based on this evidence, Doukas et al. [2004] conclude that divergent opinions, proxied by forecast dispersion, at least partially explain the value premium. Their conclusion is based on the assumption that firms with higher forecast dispersion earn higher returns. However, Diether, Malloy, and Scherbina [2002] show that firms with higher analysts' forecast dispersion actually earn lower future returns, while Zhang [2006] does not find any significant unconditional association between forecast dispersion and future stock returns. However, neither study examines whether their results hold for value and growth subgroups. If, within value and growth stocks, divergent opinions are positively related to future stock returns, the Doukas et al. divergent opinions explanation for the value premium is still valid.

To investigate this issue, we independently sort stocks into equal-size B/M quintiles and two equal-size dispersion portfolios each year.[4] The "low B/M" portfolio refers to stocks in the lowest B/M quintile (i.e., growth stocks) and the "high B/M" portfolio refers to stocks in the highest B/M quintile (i.e., value stocks). Similarly, "low dispersion" stocks have below median forecast dispersion, while "high dispersion" stocks have above median forecast dispersion. The interaction of the two independent sorts creates 10 portfolios (i.e., 5×2). We are interested in four portfolios: 1) low B/M and low dispersion, 2) low B/M and high dispersion, 3) high B/M and low dispersion, and 4) high B/M and high dispersion. Our research question suggests that, if divergent opinions are a risk factor, high dispersion portfolios should outperform low dispersion portfolios, all else being equal. This directs us to two particular examinations. First, we examine whether, within low B/M stocks (i.e., growth stocks), those with high dispersion outperform those with low dispersion. Second, we examine whether, within high B/M (i.e., value stocks), those with high dispersion outperform those with low dispersion.

We first present univariate test results. In the univariate tests, we compute the yearly differences in excess returns between high dispersion and low dispersion portfolios within value and growth firms. Following the literature, we measure excess returns as size-adjusted returns. Size-adjusted returns are calculated as the difference between the raw returns of the firm and the corresponding returns of the size decile the firm belongs to when the portfolio is formed. We use $SRET^{HD}$ ($SRET^{LD}$) to indicate size-adjusted returns of high (low) dispersion firms. Under the hypothesis that high dispersion is associated with higher returns, we expect $SRET^{HD} - SRET^{LD} > 0$ within both value and growth stocks.

Exhibit 2 shows that within value stocks, high dispersion firms do not outperform low dispersion firms in general. If anything, high dispersion stocks underperform low dispersion firms in most years. In fact, within our 22-year sample period (1983–2004), high dispersion firms outperform low dispersion firms in only six years. The average annual size-adjusted return for the high dispersion portfolio is –2.00%, while that for the low dispersion firms is 3.59%, but the 5.59% difference is statistically insignificant.

The same story is told by Exhibit 3 for growth stocks. Within growth stocks, high dispersion firms outperform their low dispersion counterparts in only nine years of the 22-year sample period. The average annual adjusted return for the high dispersion portfolio is –12.28%, while that for the low dispersion portfolio is –11.95%. Again, contrary to the Doukas et al. hypothesis, high dispersion stocks underperform instead of outperform low dispersion stocks, although the performance difference is statistically insignificant. Overall, the univariate results fail to support the view that stocks with higher dispersion earn higher returns.

It is possible that our univariate results are biased because they do not control for other known risk factors. Thus, to better understand whether dispersion is a priced risk factor in addition to known risk factors, we perform multivariate tests. We follow Griffin and Lemmon [2002] and perform multivariate tests using the four-factor asset pricing model (Fama and French [1993] and Carhart [1997]).[5] Fama and French [1993] identify three risk factors: excess return (relative to risk-free rate) of the value-weighted market portfolio (RMF), excess return of small firms over large firms (SMB), and excess return of high B/M firms over low B/M firms (HML). Carhart [1997] proposes the fourth factor, the momentum factor (UMD), which is the excess return of past 12-month winners over past losers. The four-factor regression model is as follows:

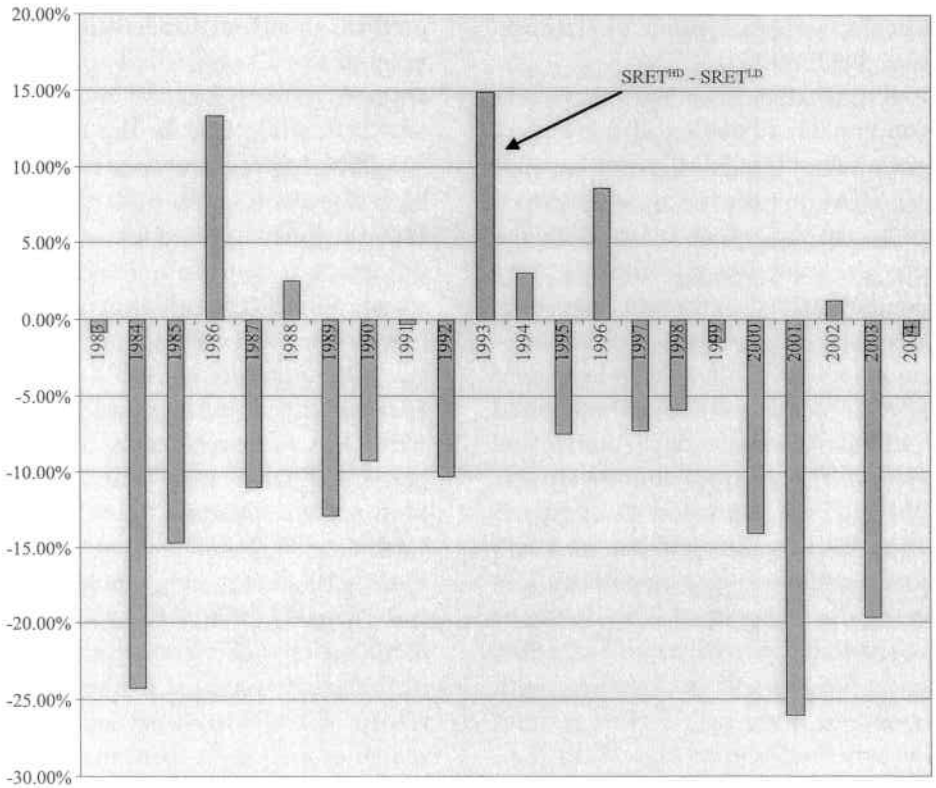
$$R_t - RF_t = \alpha + m\, RMF_t + s\, SMB_t + h\, HML_t + u\, UMD_t + \varepsilon \tag{1}$$

where

R_t = portfolio return in month t
RF_t = risk-free rate in month t, proxied by the return of one-month T-bill
RMF_t = excess return of the value-weighed market portfolio over the risk-free rate in month t
SMB_t = return of the smallest 30% stocks minus the return of the largest 30% stocks in month t
HML_t = return of the top 30% stocks measured in B/M minus the return of the bottom 30% stocks in month t

EXHIBIT 2

Differences in Size-Adjusted Returns between Value Firms with High Dispersion and Value Firms with Low Dispersion, 1983–2004 Data



Notes: $SRET^{HD}$ represents annual size-adjusted returns for high dispersion firms. $SRET^{LD}$ represents annual size-adjusted returns for low dispersion firms. The exhibit shows the differences in annual size-adjusted returns between high dispersion firms and low dispersion firms (i.e., $SRET^{HD} - SRET^{LD}$) within value firms over the 1983–2004 period. Value firms are firms in the highest B/M quintile. High dispersion firms are those with above the median forecast dispersion. Low dispersion firms are those with below the median forecast dispersion.

UMD_t = return of the average of the returns on two (big and small) high prior return portfolios minus the average of the returns on two low prior return portfolios in month t

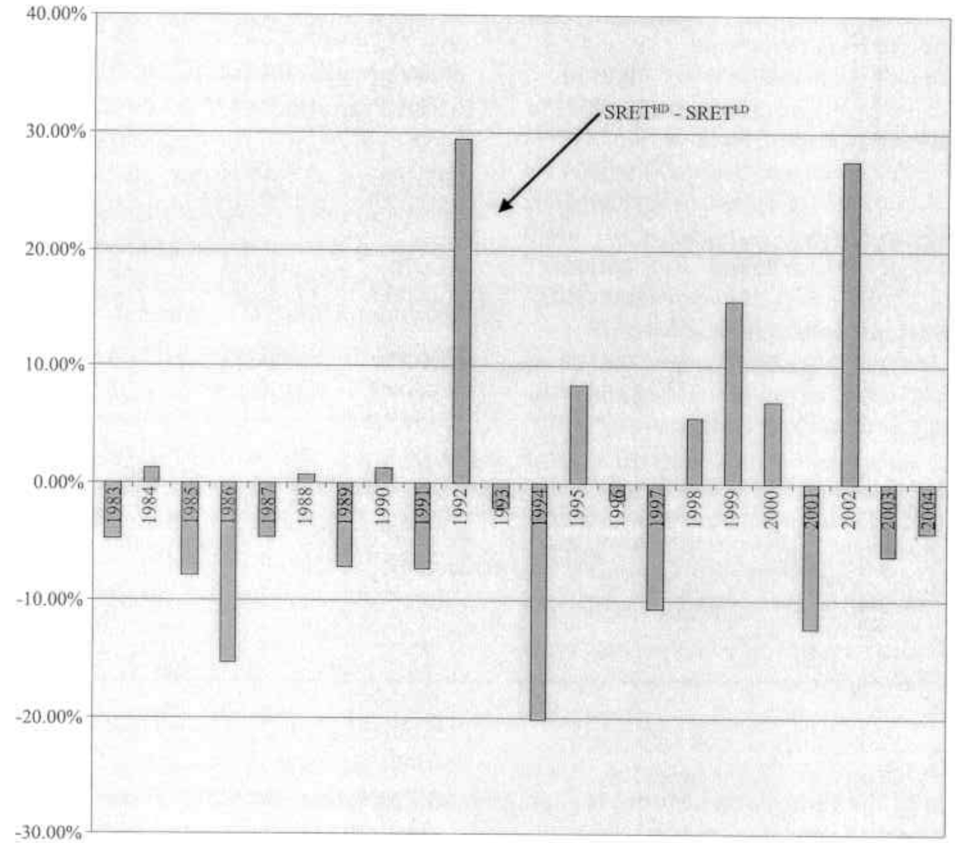
The monthly return time-series starts from July 1983 and ends at June 2005. We focus on the regression intercept, α, which indicates monthly excess returns not accounted for by the four risk factors. If dispersion is an additional risk factor, we expect to find that α for the high dispersion portfolio is larger than that for the low dispersion portfolio.

Exhibit 4 presents regression results for four portfolios: low B/M and low dispersion, low B/M and high dispersion, high B/M and low dispersion, and high B/M and high dispersion. Panel A reports regression results for the low B/M (i.e., growth stocks) and high dispersion portfolio, while panel B reports those for the low B/M and low dispersion portfolio. The regression intercept, α, is slightly higher for the high dispersion portfolio (0.0026) than for the low dispersion portfolio (0.0024). However, the intercept for the high dispersion portfolio is statistically insignificant, while that for the low dispersion portfolio, though smaller, is significant at 0.05 level. Thus, at the portfolio level, there is no evidence suggesting that high dispersion growth stocks earn any excess returns unexplained by the four risk factors. However, low dispersion growth stocks earn a small yet statistically significant excess return.

The patterns for high B/M stocks (i.e., value stocks) are the same. Panel D shows that the regression intercept

EXHIBIT 3

Differences in Size-Adjusted Returns between Growth Firms with High Dispersion and Growth Firms with Low Dispersion, 1983–2004 Data



Notes: $SRET^{HD}$ represents annual size-adjusted returns for high dispersion firms. $SRET^{LD}$ represents annual size-adjusted returns for low dispersion firms. The exhibit shows the differences in annual size-adjusted returns between high dispersion firms and low dispersion firms (i.e., $SRET^{HD} - SRET^{LD}$) within growth firms over the 1983–2004 period. Growth firms are firms in the lowest B/M quintile. High dispersion firms are those with above the median forecast dispersion. Low dispersion firms are those with below the median forecast dispersion.

is 0.0016 for the high dispersion value stocks, which is insignificantly different from zero. However, Panel E shows that the intercept for low dispersion value stocks is 0.0047, which is both statistically and economically significant. Again, the results with value stocks reject the hypothesis that high dispersion stocks earn higher risk-adjusted returns.

Exhibit 4 presents results for each of the four portfolios. An alternative approach is to examine the impact of dispersion by forming long/short portfolios. In particular, if high dispersion stocks outperform low dispersion stocks due to their higher exposure to dispersion risk, we should expect a portfolio that is long high dispersion stocks and short low dispersion stocks to earn excess returns unexplained by the four risk factors. Results of the long/short portfolio tests are reported in Exhibit 5.

Panel A of Exhibit 5 regresses the return of a portfolio that is long high dispersion growth stocks and short low dispersion growth stocks on the four risk factors. The intercept is almost zero ($\alpha = 0.0002$, $t = 0.11$), suggesting that no excess returns are earned by high dispersion stocks. When we perform the same exercise for value stocks, we find that the intercept is negative—opposite of what the hypothesis predicts—and marginally significant ($\alpha = -0.0031$, $t = -1.60$). Hence, there is no evidence that high dispersion stocks outperform low dispersion stocks among either value or growth stocks.

EXHIBIT 4

Regression Results of the Four-Factor Model within Value Stocks and Growth Stocks, 1983-2004 Data

Portfolio	α	RMF	SMB	HML	UMD	Adj-R^2
A. Low B/M and High Dispersion						
	0.0026	0.0120	0.0100	-0.0044	-0.0049	0.88
	(1.39)	(25.08)***	(16.93)***	(-6.20)***	(-11.75)***	
B. Low B/M and Low Dispersion						
	0.0024	0.0109	0.0036	-0.0053	-0.0027	0.93
	(2.10)**	(37.57)***	(10.02)***	(-12.36)***	(-10.78)***	
C. High B/M and High Dispersion						
	0.0016	0.0116	0.0078	0.0086	-0.0025	0.87
	(1.27)	(35.57)***	(19.46)***	(17.82)***	(-8.99)***	
D. High B/M and Low Dispersion						
	0.0047	0.0102	0.0070	0.0078	-0.0010	0.73
	(2.62)**	(22.54)***	(12.54)***	(11.65)***	(-2.54)**	

Notes: The regression is: $R_t - RF_t = \alpha + m\,RMF_t + s\,SMB_t + h\,HML_t + u\,UMD_t + \varepsilon$. R_t is the return for a portfolio in month t, RF_t is the one-month T-bill rate in month t, RMF_t is excess return of the value-weighed market portfolio over the risk-free rate in month t, SMB_t is the return of the smallest 30% stocks minus the return of the largest 30% stocks in month t, HML is the return of the top 30% stocks measured in B/M minus the return of the bottom 30% stocks in month t, and UMD is return of the average of the returns on two (big and small) high prior return portfolios minus the average of the returns on two low prior return portfolios in month t. The sample period is from July 1983 to June 2005.

, **, and * indicate 10%, 5%, and 1% significance levels, respectively.*

EXHIBIT 5

Regression Results of the Four-Factor Model for Long/Short Portfolios, 1983-2004 Data

Portfolio	α	RMF	SMB	HML	UMD	Adj-R^2
A. Low B/M and High Dispersion–Low B/M and Low Dispersion						
	0.0002	0.0011	0.0064	0.0009	-0.0022	0.37
	(0.11)	(2.25)***	(10.64)***	(1.27)	(-5.11)***	
B. High B/M and High Dispersion–High B/M and Low Dispersion						
	0.0031	0.0014	0.0008	0.0008	-0.0015	0.08
	(-1.60)	(2.80)***	(1.34)	(1.07)	(-3.67)***	
C. High B/M and High Dispersion–Low B/M and Low Dispersion						
	0.0008	0.0007	0.0042	0.0139	0.0002	0.74
	(-0.52)	(1.79)*	(9.02)***	(24.71)***	(0.53)	
D. High B/M and Low Dispersion–Low B/M and High Dispersion						
	0.0021	0.0018	0.0030	0.0122	0.0039	0.64
	(0.84)	(-2.85)***	(-3.88)***	(13.26)***	(7.18)***	

Notes: The regression is: $R_t - RF_t = \alpha + m\,RMF_t + s\,SMB_t + h\,HML_t + u\,UMD_t + \varepsilon$. R_t is the return for a portfolio in month t, RF_t is the one-month T-bill rate in month t, RMF_t is excess return of the value-weighed market portfolio over the risk-free rate in month t, SMB_t is the return of the smallest 30% stocks minus the return of the largest 30% stocks in month t, HML is the return of the top 30% stocks measured in B/M minus the return of the bottom 30% stocks in month t, and UMD is return of the average of the returns on two (big and small) high prior return portfolios minus the average of the returns on two low prior return portfolios in month t. The sample period is from July 1983 to June 2005.

, **, and * indicate 10%, 5%, and 1% significance levels, respectively.*

Moreover, if divergent opinions are a risk factor, we expect to generate higher value premium by buying value stocks with high dispersion and shorting growth stocks with low dispersion. The outcome of this hypothetical strategy is reported in Exhibit 5, Panel C. Contrary to the view that divergent opinions are a risk factor, the monthly excess return for this strategy is negative, though statistically insignificant ($\alpha = -0.0008$, $t = -0.52$). On the other hand, Panel D shows that the strategy of buying value stocks with low dispersion and shorting growth stocks with high dispersion generates positive though insignificant excess return ($\alpha = 0.0021$, $t = 0.84$). If dispersion is a risk factor, the strategy in Panel D should earn lower returns than that in Panel C, but the evidence shows the opposite.

Collectively, the regression results fail to support the Doukas et al. assumption that for value and growth stocks, high forecast dispersion is associated with positive future stock returns. Given this evidence, the Doukas et al. finding that value stocks have higher forecast dispersion does not explain their higher returns.

CONCLUSION

Assuming that divergent opinions, proxied by forecast dispersion, are a priced risk factor, Doukas et al. [2004] propose that the value premium may be due to value stocks' greater exposure to the risk of divergent opinions. They document that value stocks have higher forecast dispersion than growth stocks do and conclude that this evidence supports their theory. However, extant theories provide conflicting predictions on the relationship between divergent opinions and future stock returns, and empirical evidence shows an either negative or insignificant relationship.

This article directly investigates whether divergent opinions explain the value premium. Specifically, it examines whether high dispersion value (growth) stocks outperform low dispersion value (growth) stocks. It is similar in spirit to Griffin and Lemmon [2002], who examine whether distress risk explains the value premium. We find no evidence suggesting a positive relation between forecast dispersion and future stock returns for either value or growth stocks. If anything, stocks with high forecast dispersion seem to earn lower returns than stocks with low forecast dispersion. Thus, even though value stocks have higher forecast dispersion than growth stocks, that fact does not explain the value premium. The risk factor predicted by the rational pricing theory to explain the value premium, if it exists, is still unknown.

ENDNOTES

[1]Some research challenges the notion that value stocks actually outperform growth stocks. For instance, Loughran [1997] finds no book-to-market effect in the largest size quintile of all stocks, which accounts for 73% of the total market value of all publicly traded stocks. Similary, Phalippou [2008] shows that in stocks held by institutional investors, which account for 93% of the total value of the stock market, there is no evidence of the value premium.

[2]Alternatively, supporters of behavioral theories argue that value firms outperform because the stock market consistently undervalues value firms (e.g., Lakonishok, Shleifer, and Vishny [1994], La Porta [1996], and La Porta, Lakonishok, Shleifer, and Vishny [1997]).

[3]Doukas et al. [2004] do not explicitly restrict their sample firms to being traded in one of the three markets. Removing this restriction has no impact on our results.

[4]We sort dispersion into two portfolios rather than quintiles because finer sorting significantly reduces the sizes of the interaction portfolios (i.e., the interaction between B/M and dispersion). Nevertheless, our results hold when finer sorting is performed.

[5]All four factors are obtained from French's website (mba.tuck.Dartmouth.edu/pages/faculty/ken.French).

REFERENCES

Ang, A., and J. Chen. "CAPM Over the Long Run: 1926–2001." *Journal of Empirical Finance*, Vol. 14, No. 1 (2007), pp. 1-40.

Carhart, M. "On Persistence in Mutual Fund Performance." *Journal of Finance*, 52 (March 1997), pp. 57-82.

Chen, J., H. Hong, and J.C. Stein. "Breadth of Ownership and Stock Returns." *Journal of Financial Economics*, Vol. 66, Nos. 2-3 (November/December 2002), pp. 171-205.

Diamond, D.W., and R.E. Verrecchia. "Constraints on Short-Selling and Asset Price Adjustment to Private Information." *Journal of Financial Economics*, Vol. 18, No. 2 (June 1987), pp. 277-311.

Dichev, I.D. "Is the Risk of Bankruptcy a Systematic Risk?" *Journal of Finance*, Vol. 53, No. 3 (1998), pp. 1131-1147.

Diether, K.B., C. J. Malloy, and A. Scherbina. "Differences of Opinions and the Cross Section of Stock Returns." *Journal of Finance*, Vol. 57, No. 5 (October 2002), pp. 2113-41.

Doukas, J.A., C. Kim, and C. Pantzalis. "Divergent Opinions and the Performance of Value Stocks." *Financial Analysts Journal*, Vol. 60, No. 6 (November/December 2004), pp. 55-64.

Fama, E.F., and K.R. French. "Common Risk Factors in the Returns on Stocks and Bonds." *Journal of Financial Economics*, Vol. 33, No. 1 (February 1993), pp. 3-56.

——. "Size and Book-to-Market Factors in Earnings and Returns." *Journal of Finance*, 50 (March 1995), pp. 131-156.

——. "Multifactor Explanations of Asset Pricing Anomalies." *Journal of Finance*, Vol. 51, No. 1 (March 1995), pp. 55-84.

——. "The Value Premium and the CAPM." *Journal of Finance*, 61 (October 2006), pp. 2163-2185.

Graham, B., and D. Dodd. *Security Analysis*. New York, NY: McGraw-Hill, 1934.

Griffin, J.M., and L.M. Lemmon. "Book-to-Market Equity, Distress Risk, and Stock Returns." *Journal of Finance*, Vol. 57, No. 5 (October 2002), pp. 2317-2336.

Hong, H., and J.C. Stein. 2003. "Differences of Opinion, Short-Sales Constraints, and Market Crashes." *Review of Financial Studies*, Vol. 16, No. 2 (Summer 2003), pp. 487-525.

Lakonishok, J., A. Shleifer, and R.W. Vishny. "Contrarian Investments, Extrapolation, and Risk." *Journal of Finance*, Vol. 49, No. 5 (December 1994), pp. 1541-1578.

La Porta, R. "Expectations and the Cross-Section of Stock Returns." *Journal of Finance*, Vol. 51, No. 5 (December 1996), pp. 1715-1742.

La Porta, R., J. Lakonishok, A. Shleifer, and R.W. Vishny. "Good News for Value Stocks: Further Evidence on Market Efficiency." *Journal of Finance*, Vol. 52, No. 2 (June 1997), pp. 859-874.

Loughran, T. "Book-to-Market across Firm Size, Exchange, and Seasonality: Is There an Effect?" *Journal of Financial and Quantitative Analysis*, Vol. 32, No. 3 (1997), pp. 249-268.

Mayshar, J. "On Divergence of Opinion and Imperfections in Capital Markets." *American Economic Review*, Vol. 73, No. 1 (March 1983), pp. 114-128.

Miller, E.M. "Risk, Uncertainty, and Divergence of Opinion." *Journal of Finance*, Vol. 32, No. 4 (September 1977), pp. 1151-1168.

Morris, S. "Speculative Investor Behavior and Learning." *Quarterly Journal of Economics*, Vol. 111, No. 4 (November 1996), pp. 1111-1133.

Petkova and Zhang. "Is Value Riskier than Growth?" *Journal of Financial Economics*, Vol. 78, No. 1 (2005), pp. 187-202.

Phalippou, L. "Where Is the Value Premium?" *Financial Analysts Journal*, (March/April 2008), pp. 41-48.

Williams, J.B. *The Theory of Investment Value*. Amsterdam, Holland: North Holland, 1938.

Williams, J.T. "Capital Asset Prices with Heterogeneous Beliefs." *Journal of Financial Economics*, Vol. 5, No. 2 (November 1977), pp. 219-239.

Zhang, L. "The Value Premium." *Journal of Finance*, Vol. 60, No. 1 (2005), pp. 67-103.

Zhang, X. "Information Uncertainty and Stock Returns." *Journal of Finance*, Vol. 61, No. 1 (February 1996), pp. 105-136.