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Equity Style and Strategic Investment Policy

This paper seeks to determine if investors will benefit from a strategic emphasis on value or growth stocks. It defines value and growth stocks and considers reasons why value or growth stocks have periodically outperformed in the past. The paper suggests that value will continue to outperform growth over the long term and that a modest strategic emphasis of value stocks will be beneficial for institutional investors, though current market conditions should be considered.

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Defining value and growth stocks

Value and growth stocks are typically defined by the ratio of a company's price to its earnings, sales, cash flow, or book value. Value stocks are those with low price ratios, while growth stocks carry higher price ratios. In an efficient market for stocks, the disparity in price ratios would be perfectly explained by differences in expected future earnings (growth and predictability) for the underlying companies. Rational investors should pay a premium for faster growing companies and expect a discount for slower growing companies and for those for which future earnings are less certain.

Opinions vary on what constitutes a value or growth *company*, based on complex profiles of a company's fundamental characteristics. Here, we are concerned with value or growth stocks, defined simply by their price-book ratios, relative to the market average.

A common methodology for defining growth and value is to rank the investable stock universe by price-book value, and assign each stock to one of two style indices, dividing the market's capitalization in half. Note that this simplistic rule will cause many stocks—especially those near the middle of the market for price-book value—to move back and forth between the growth and value labels.

The table below shows the characteristics of the large capitalization S&P 500 index's growth and value subcomponents, as defined at two points in time that illustrate good examples of one style outperforming the other. The first date, March 31, 2000, was essentially the peak of the dot-com bubble, during which growth stocks had outperformed value stocks for six years. The second date, June of 2007, reflects the opposite environment, as value outperformed growth over the seven previous years.

	March 2000		June 2007	
	Value	Growth	Value	Growth
Weighted Average Market Cap. (Billions)	$71	$233	$82	$112
Price-Earnings Ratio	19.1x	47x	15.5x	17.8x
Price-Book Value Ratio	3.0x	12.4x	2.4x	3.7x
Price-Sales Ratio	2.8x	16.4x	1.5x	1.9x
Dividend Yield	1.7%	0.5%	2.3%	1.3%
Implied Growth Rate (3 Year Avg.)	8%	44%	11%	30%

As the prior table shows, in both environments, the universe of growth stocks traded at higher price ratios, offered a lower dividend yield, and exhibited higher earnings growth.

Traditional value sectors include interest rate-sensitive financial and utility stocks, while traditional growth sectors include healthcare and technology stocks. The following table displays the composition of the S&P 500 Value and Growth style indices by sector.

	March 2000		June 2007	
	Value	Growth	Value	Growth
Industrial/Cyclical	23%	5%	22%	22%
Consumer Driven	17	20	15	26
Interest Rate Sensitive	31	5	45	11
Healthcare	3	13	9	18
Technology & Telecom	27	58	10	21
Five Largest Stocks	Exxon Mobil; Citigroup; AT&T; AIG; Hewlett Packard	Microsoft; Cisco; General Electric; Intel; Walmart	Citigroup; Bank of America; General Electric; JP Morgan Chase; AT&T	Exxon Mobil; Procter & Gamble; Johnson & Johnson; AIG; Cisco

Again, March 2000 marked the peak of a dramatic growth cycle, while June of 2007 represents a point preceded by sharp outperformance by value stocks. The snapshots of the value and growth indices illustrate how the growth and value labels do not refer to static universes of stocks. Note that an investment in the S&P Growth index in March of 2000 came with a paltry dividend yield of 0.7% and technology and telecom stocks comprised 58% of the portfolio. By mid 2007, the dividend yield had risen to 1.3% and technology and telecom stocks had fallen by more than half, comprising only 21% of the index. Similar changes occurred in the S&P Value index's composition.

What has remained relatively constant, however, is the general industry composition of the growth and value universes. Although weightings vary within the indices, technology and health care are generally two of the larger components of growth indices, while financials (banks and insurance companies) and utilities typically are more heavily weighted in value indices. Value indices tend to contain stocks in slower-growing, mature industries, while newer, faster growing companies tend to carry higher price-book measures and, thus, are labeled as growth stocks. Other common by-products of industry maturity are slower earnings growth, lower margins, oligopoly, and the payment of dividends versus re investment in the business.

Historical returns

Globally, value stocks have produced higher returns over long periods of time, albeit with substantial cyclicality. The sections that follow examine results within the United States and the developed foreign markets, while also considering market capitalization.

The U.S. market[1]

Most growth and value indices go only as far back as the mid-1970s. However, Eugene Fama and Ken French created growth and value indices for both small and large capitalization stocks back to July 1926. Because of this long history, these indices are useful in the analysis of growth and value investing. The indices were constructed by applying the same methodology to define value and growth over the entire time period.

To define value and growth, Fama-French use the book value of equity divided by market capitalization, which is the inverse of how much investors are willing to pay for a dollar of book value (i.e., the price-book ratio). They categorize value stocks as those with high book to market cap ratios (low price-book ratios), while growth stocks are those that exhibit a low book to market cap ratio (high price-book ratio).

From 1926 through 2018, value stocks outperformed growth stocks in both the large and small capitalization sectors. For this 90-year period, the overall return advantage for value was an average of 320 basis points per year (12.7% versus 9.5%). Within the small capitalization market, the value advantage was much larger, averaging 600 basis points per year. This is illustrated in Chart 1 below.
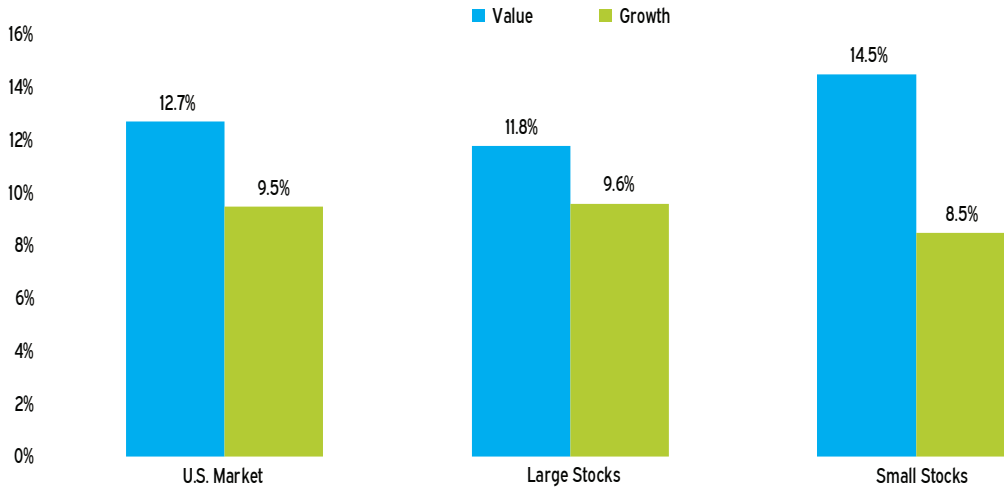
While value stocks have produced significantly higher returns, they have done so with higher volatility (25% versus 18%). Overall, however, the risk-adjusted return favors value, as indicated by its higher Sharpe Ratio (0.37 versus 0.34).

Foreign markets[2]

Value stocks have outperformed growth stocks in foreign developed markets as well, though the historic evidence is less robust, being drawn from a shorter period of 43 years. Here, the average annual advantage of value over growth was 290 basis points for small cap stocks and 240 basis points for large cap stocks. In Emerging Markets, again with a shorter period of just 20 years, value stocks also outperformed growth stocks but with a smaller margin of about 50 basis points.

[2] Source: For foreign developed markets, the IIA International indices were used from January 1975 to July 2003, when they were discontinued. From July 2003 through Dec 2018, MSCI EAFE Market cap and style indices were used. For emerging markets, the MSCI EM value and growth indices were used. The period measured for emerging markets is December 1997-December 2018.
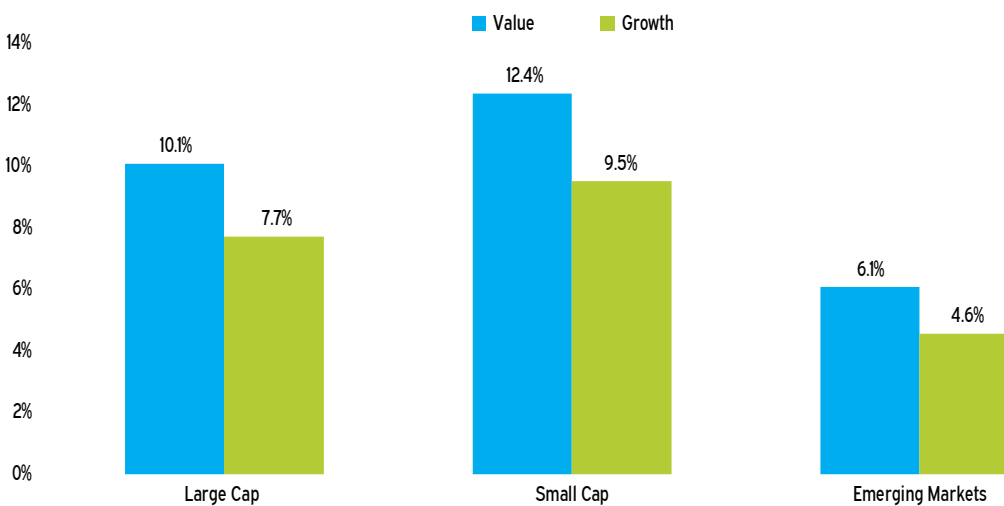
Performance in different economic and market environments[3]

Economic recessions or expansions have not clearly favored either growth or value stocks. For recessionary periods, such as 1929 to 1932, 1937 to 1941, and 2007 to 2009 growth stocks outperformed value. However, in two separate recessions, from 1973 to 1974 and from 2000 to 2002, value stocks outperformed growth stocks. In expansionary periods, from 1942 to 1955, from 1986 to 1989, and from 2000 to 2007 value stocks outperformed growth stocks. During the "technology boom" from 1998 through March of 2000, however, growth stocks far outperformed value stocks.
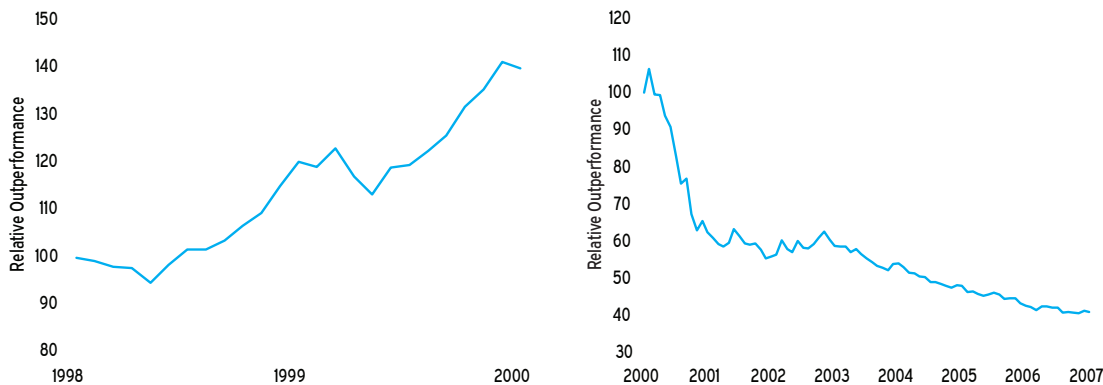
CHART 3
Relative Performance of Growth vs. Value Stocks[4]
1998 — 2000 (left);
2000 — 2007 (right)

[4] Indexed to 100 at period start, relative performance shows cumulative effect of growth stocks' return less value stocks' return; higher (lower) indicates outperformance of growth (value). Note that this metric is not investable.

Additionally, value stocks are commonly viewed as conservative, with defensive qualities that favor them in bear markets, but evidence here is also mixed. The market's two most severe bear markets occurred from 1929-1932 and 2007-2009. During these time periods, growth outperformed value by roughly 10% and 21% per annum. However, the market sustained its longest bear market between November 1938 and April 1942, a period during which growth stocks' decline was more than double that of their value counterparts. In bull markets, from June 1947 to July 1957 and August 1982 to August 1987, value stocks outperformed growth stocks, but from the market's bottom in October 1990 until its peak in March 2000, growth stocks outperformed value stocks.
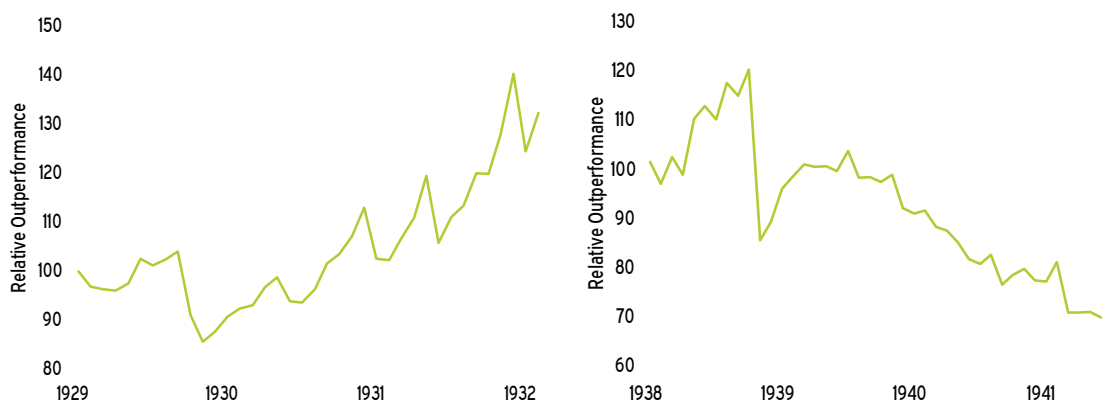

CHART 4
Relative Performance of Growth vs. Value Stocks[5]
1938 — 1942 (left);
1929 — 1932 (right)

[5] Indexed to 100 at period start, relative performance shows cumulative effect of growth stocks' return less value stocks' return; higher (lower) indicates outperformance of growth (value). Note that this metric is not investable.

History of value and growth cycles[6]

Over time, the stock market tends to rotate favor between growth stocks and value stocks. Chart 7 below highlights the duration and magnitude of these style cycles from the mid-1970s through December 2018.
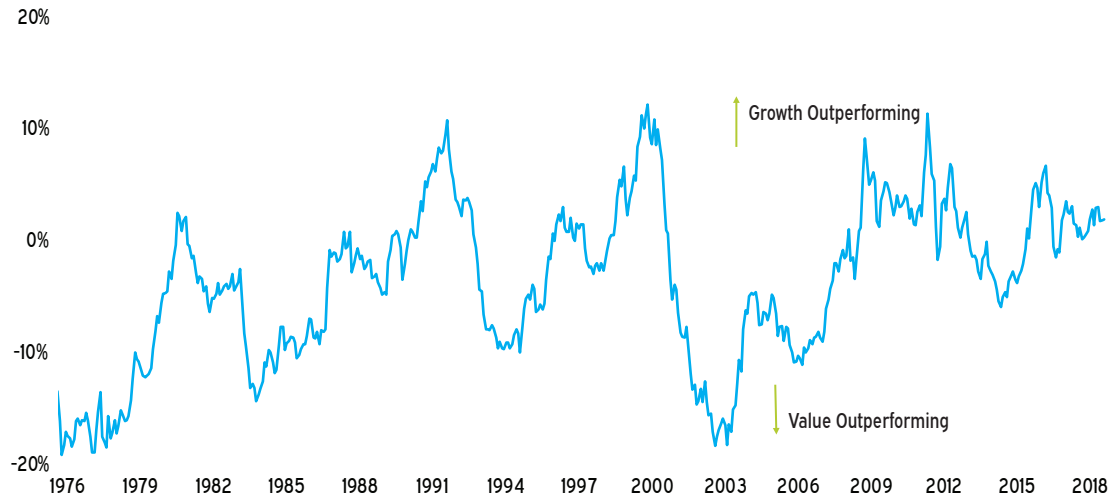

CHART 5
Relative Three Year Rolling Returns of Growth vs. Value Stocks

Looking at the returns of the value and growth indices, it becomes clear the two styles perform in a cyclical pattern relative to one another. Further, these cycles can be quite lengthy in nature, lasting for years at a time. Given this cyclicality, it is prudent to own both value and growth stocks. While timing these style cycles is very difficult, acknowledging their existence is critical when structuring balanced equity portfolios. See Appendix A for a further historical breakdown of cyclical value and growth stock returns in the U.S. and overseas.

Explaining the "value effect"

It is important to understand why value has outperformed growth over long periods of time to determine if value should continue to outperform. Is low price-book simply a proxy for other factors such as low market capitalization? Are value stocks more risky?

While the evidence of a value effect is clear, its explanations are numerous and debated. The three dominant explanations are listed below. The following sections explore various theories to explain the "value effect."

Are value stocks more risky?

If value stocks were more risky, then investors would logically expect to be compensated through a higher return over time. This explanation is consistent with theories of an efficient market and was argued by Fama and French in a 1996 paper. Here, they categorized value stocks as those "more prone to financial distress," focusing on individual company fundamentals.[7] Further, a subsequent paper by Doukas, Kim, and Pantzalis (2004) suggests that value stocks represent a higher level of risk because there is a greater dispersion of earnings estimates for these stocks.[8]

Many other academic studies dismiss the theory that value stocks are more risky. Chan and Lakonishok (2003), for example, illustrates that Internet stocks with virtually no book value could not be considered less risky than utility stocks[9]. Similarly, Lakonishok, Shleifer, and Vishny (1994) review historical return data and conclude that risk does not explain the value premium.[10] Based on the performance of growth and value in down market environments over the last thirty years, value stocks proved *less risky* than growth stocks.

January 1975 — December 2018	Downside Capture of the S&P 500
S&P / Growth	105%
S&P / Value	95%

TABLE 3

Do small cap stocks in the value indices account for the outperformance?

Historically, small stocks have outperformed large stocks. Many believe that investors earn a premium for holding smaller, lesser-known, more illiquid stocks. This raises the question of whether the value effect is the result of smaller companies within the value universe. Fama and French (1992), however, adjusted the historical return series to control for company size that found that the value effect is reduced, but not eliminated.[11]

Are value stocks priced at discount due to irrational human behavior?

If the higher risk and small cap effect arguments are disregarded, one still faces an anomaly that should not exist and persist in an efficient market. Hence, there are good reasons to believe that investors behave irrationally in the area of growth and value stocks. Outlined below are two areas of potential irrationality.

→ **Expectational errors** Humans are shown to consistently err in projecting the past into the future. This so-called "extrapolative effect" leads to irrational decisions on the part of investors and allows the value anomaly to persist. Investors expect that a company that has been growing quickly and consistently will continue this trend to a greater degree than justified. Conversely, a company that has produced disappointing earnings is dismissed as being in a permanent decline. This persistent overreaction leads a value-oriented investor to avoid owning

companies that are overpriced due to excessive optimism and to buy companies that are underpriced as the result of excessive pessimism. The 1994 study by Lakonishok, Shleifer, and Vishny supports this hypothesis. Similarly, a 2003 study by Chan, Karceski, and Lakonishok showed that high price book value ratios fail as a predictor of higher growth rates.[12]

→ **Agency Issues** Sometimes the decision about whether to buy or promote a stock is influenced by a professional investor's career considerations. Stock analysts are generally more interested in recommending successful stocks with exciting businesses than troubled businesses that may be cheap. Similarly, portfolio managers prefer to show lists of their company holdings that include companies that have done well, as it is easier to defend an investment in these stocks to clients.

In our view, the behavioral issues described above are the most compelling explanations for the value effect. This view is important when making strategic allocations to value and growth stocks. First, we seek to improve expected returns not on an absolute basis, but on a risk adjusted basis. Second, because we expect that human behavior will not change, we also expect that the value effect will persist. The average investor will continue to accept higher multiples for the implied promise of greater future earnings growth.

Equity style and strategic policy

Some investors have chosen to emphasize value stocks in their equity portfolio. This posture is based on the historical observation that value stocks have outperformed growth stocks over long periods of time. The following table shows the return characteristics of several value-growth mixes.[13]

U.S. Equities, 1926 — 2018	65% Value / 35% Growth	60% Value / 40% Growth	55% Value / 45% Growth
Historical Return	11.5%	11.4%	11.2%
Tracking Error[14]	1.1%	0.7%	0.4%
Best Monthly Outperformance	5.8%	3.9%	1.9%
Worst Monthly Underperformance	-2.2%	-1.5%	-0.7%
Best Annual Outperformance	11.8%	7.9%	3.9%
Worst Annual Underperformance	-3.6%	-2.4%	-1.2%
No. of Years Underperforming by >1%	25	19	4
No. of Years Underperforming by >2%	12	4	0

TABLE 4

Unsurprisingly, as the allocation to value stocks increases, the historical return increases. A 60/40 ratio improved returns by 32 basis points (0.32%), relative to a 50/50 ratio, while a 65/35 allocation improved returns by 48 basis points (0.48%). However, tracking error increased commensurately with an increase in the weighting to value. Hence, the question of what value weighting is appropriate for an institutional investor depends on their tolerance for letting equity returns deviate from those of the market. The cyclical nature of value-growth outperformance, however, should be viewed as a caution against making an extreme allocation to value stocks.

Tactical considerations: the environment as of 2019

The most recent cycle, favoring growth stocks, began after the financial crisis and has been more muted than previous cycles. While Growth has outperformed during this cycle, it has been less defined, and there has been more oscillation between value and growth rather than a clear trend. Prior to this cycle, the time period between the end of the dotcom bubble and the beginning of the Global Financial Crisis (GFC), there was a strongly defined period of Value outperforming Growth. The degree of relative outperformance for the dot-com to GFC cycle was 13% per year on average and the largest that occurred in any previous cycle. The large valuation differentials between growth and value stocks that existed at the outset of the cycle were compressed by the outperformance of value stocks. Additionally, many of the stocks most affected by the global financial crisis fell within the value universe (e.g. large financial institutions). The charts displayed below make a case for holding both value and growth in a cycle that is relatively undefined.

Taken together, the data in the following two charts make a compelling case for holding at least a market weight in growth stocks today. They compare the price-earnings ratios of the largest fifty U.S. stocks in March 2000 versus December 2018. Although relatively high today, with an average of 31.4x, only two individual names are stretched to pre dotcom levels.
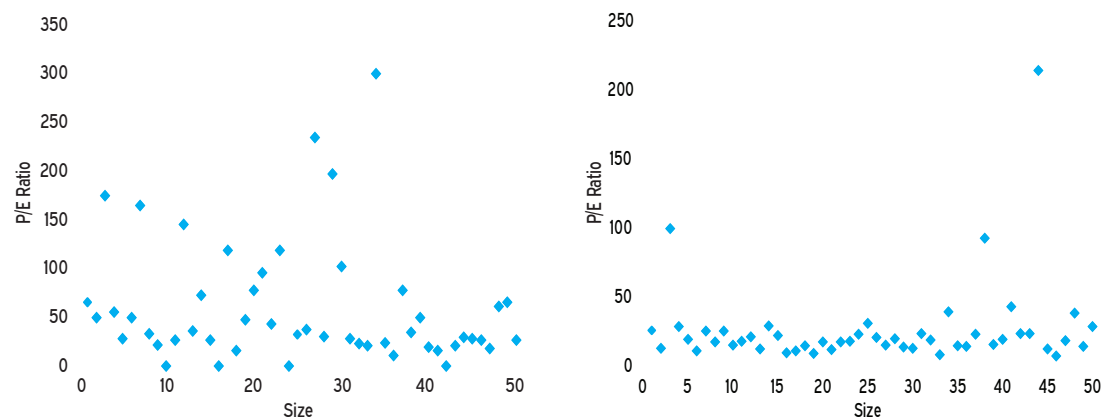

CHART 6
P/E Ratio 50 Largest Stocks
March 200 (left); December 2018 (right)

Focusing on the relative price-book ratios of growth vs. value in Chart 7 below, we see that the recent value cycle that ended in 2007 showed a bottoming out of growth and value stock relative valuation. Since then, growth stock valuations have trended towards the long term ratio of 2.4, going above it in 2016, and coming back down towards the long term average in 2018.
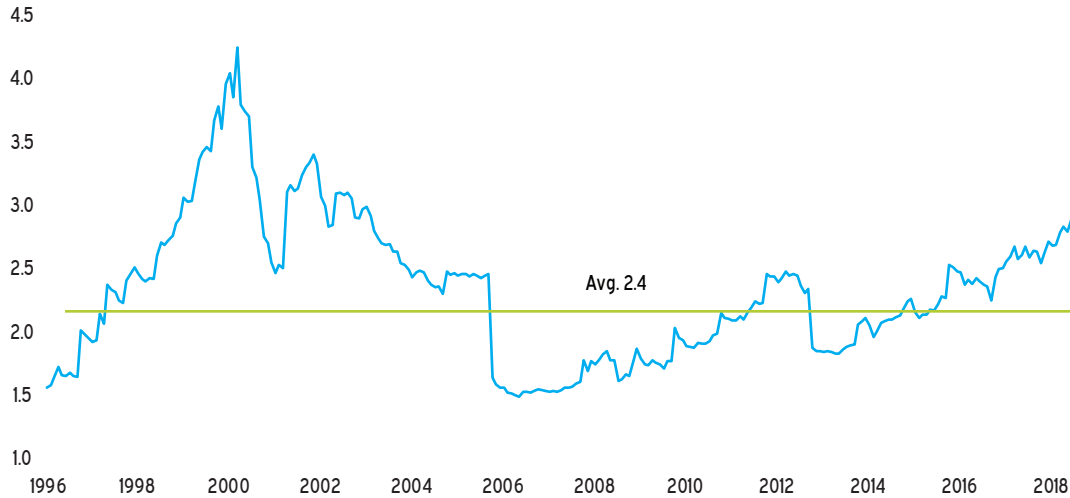
Summary/Conclusions

Value stocks have posted higher returns historically, but this has come with higher volatility. Overall, the tradeoff has been favorable for value stocks, which have provided superior risk adjusted returns compared to growth stocks.

In an efficient market, obviously favorable investments on a risk-return basis generally disappear as the market recognizes them. However, because the "value effect" appears to result from immutable human behavioral tendencies, it is likely to continue.

Despite the historical success of value stocks, it is important to remember that value stocks can be in or out of favor for long periods. Market conditions may occasionally warrant tactical shifts to and away from a value stock emphasis.

Appendix A

Historical returns of value and growth stocks[15]

	Average Annual Return (%)	Annualized Standard Deviation (%)	Time Period
U.S. Value	12.7	24.9	1926—2018
U.S. Growth	9.5	18.4	1926—2018
U.S. Large Cap Value	11.8	24.6	1926—2018
U.S. Large Cap Growth	9.6	18.3	1926—2018
U.S. Small Cap Value	14.5	28.1	1926—2018
U.S. Small Cap Growth	8.5	25.9	1926—2018
Foreign Large Cap Value	10.1	17.4	1926—2018
Foreign Large Cap Growth	7.7	16.8	1926—2018
Foreign Small Cap Value	12.4	17.2	1926—2018
Foreign Small Cap Growth	9.5	17.0	1926—2018
Emerging Markets Value	6.1	19.4	1997—2018
Emerging Markets Growth	5.6	19.0	1997—2018

TABLE 5

[15] Source: U.S. Indexes: Fama French Data *http://mba.tuck.dartmouth.edu/ data_library.html.* Top 30% Book to Market used for Value and Bottom 30% used for Growth. For foreign developed markets, MSCI EAFE Growth and Value Indices were used.

	Value	Growth
Total Years Outperformed	56	36
90 Year Performance	12.7%	9.5%

TABLE 6
U.S. Markets: 1927 — 2018

	Value	Growth
Total Years Outperformed	29	14
42 Year Performance	10.5%	8.1%

TABLE 7
Foreign Markets: 1976 — 2018

Appendix B[16]

Value   Growth

Appendix C

Value and growth investing strategies

Passive strategies

Index providers use different methods to construct style indices, and thus provide portfolios with distinct growth or value characteristics. Academic studies focus on price to book, which alone has delivered the value effect. Russell and S&P use several factors and a more complicated methodology in producing their style indices. Yet, research has also indicated that the more measures used to define value (e.g., price to sales), and the deeper the value characteristics, the greater the value effect.

Typical classifications of active strategies

→ **Value**

Value managers typically purchase stocks that are experiencing short-term problems or are out-of-favor. As a result, the business often trades at a discount to what the manager estimates the company is really worth. Many value managers have a contrarian mind set. They purchase these stocks with the expectation that the discount to the estimated value will close. In addition, once the company's problems are resolved, the relative valuation of the stock, as measured by price-to-earnings, price to-cash flow, EBITDA multiples, or other metrics and ratios, often expands providing further equity appreciation.

Value portfolios tend to have their largest portfolio weights in the financial, industrial, consumer discretionary, and real estate sectors.

There are different kinds of value investors. Meketa classifies value managers into three categories. These are relative, traditional, and deep value.

→ **Growth**

Growth managers prefer to buy stocks of companies that are growing their revenue, earnings and cash flow. Although the minimum rate of growth varies, determining the sustainability of this growth rate is very important. Managers often focus on the company's competitive position, target markets, strategy, and quality of management. Many growth managers want the target company to exceed expectations and some look for companies that can accelerate their growth rate. Most growth managers do pay attention to valuation. They expect a combination of earnings or cash flow growth and valuation expansion will drive appreciation of the stock.

Most growth managers tend to concentrate their portfolios in the technology, health care, and consumer discretionary sectors. These are the three largest growth sectors, but growth companies can also be found in other sectors.

There are different kinds of growth investors and their definition of what constitutes "growth" can be broad. Meketa classifies growth managers into three categories. These are conservative, traditional, and high growth.

The definitions of growth and value overlap to a significant degree. Many value managers look for growth in the companies in which they invest. Many growth managers evaluate how a stock is valued and what they want to "pay" for it. Only the two ends of the investment style spectrum (i.e. deep value and rapid growth) do not overlap.

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