Value Versus Growth

Investor styles and stock characteristics.

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The recent turbulent performance of the new economy stocks against the backdrop of a chugging old economy has given new life to the common practice of opposing growth and value investment styles. That is, there may be classes of stocks whose price levels move very differently. If this is the case, there may be opportunity for active portfolio management by tactically investing in one class while benefiting from a diversification of risk within the class.

The key to seizing such an investment opportunity lies in the ability to define classes. Should stocks be classified by their industry, their size or age, certain financial ratios, or by what?

One approach that seems not to have lost popularity is to classify stocks by the very accessible financial ratios, like price-to-book (PB) or price-to-earnings (PE). It is customary to refer to stocks with a high PE ratio as *growth* stocks and stocks with a low PE ratio as *value* stocks.

The logic behind this practitioners' rule of thumb is easy to see. For stocks with high *growth* potential, current earnings are typically low compared to future levels anticipated, and for this reason their current PE level is naturally higher. Stocks with a low PE are often undervalued, so we may expect a price rebound, and thus *value*-added.

Investment managers tend to have a preference for one of the two classes, depending on their personal investment style, or they may be guided by the state of the economy. This tendency among investors is so common that it has given rise to actual style indexes that allow

us to track the performance of growth and value separately, market by market, and that provide benchmarks for investors pursuing a particular style. These style indexes are constructed using the general rule we have described.

It is widely reported that in the long run value stocks tend to do better than growth stocks. Fama and French [1993, 1998] give evidence of this phenomenon, interpreting it as compensation for a certain risk factor. According to them, value stocks are low-priced because they are in distress, and value investors are rewarded by taking on the risk related to this distress factor. This interpretation is not universally accepted. Although they reach the same experiment results, Arshanapalli, Coggin, and Doukas [1998] do not find evidence that value is riskier than growth. Daniel and Titman [2001] claim that the value premium is rather related to certain stock characteristics.

We enter this debate from a different standpoint. We concentrate on how stocks are actually classified as value or growth. The practice of associating low PB ratios with value and high PB ratios with growth, as usually followed by researchers as well as practitioners, rests in fact on ambiguous grounds. PB ratios, or similar ratios, are taken at an *instant* of time using *current* stock prices. At that instant, we argue, it is impossible to distinguish whether a PB is high (or low) *structurally* over a longer period of time, or rather *momentarily*.

We demonstrate that this difference is essential in the value/growth style concept. The classification method is, as it stands, prone to confuse certain structural characteristics of stocks (or of the underlying firms) and pure time effects.

In a number of experiments we try to separate the two effects. We find evidence of a value premium when stocks are classified on the basis of the pure time component of their PB or PE ratios, while no such premium seems to be present when a more permanent or structural criterion is used. This result seems to support the hypothesis that the value premium is related to a distress factor rather than to stock characteristics. Our findings have various implications for portfolio management.

VALUE OR GROWTH: AMBIGUITY IN DEFINITION

Since it began to be recognized in the 1980s that groups of fund managers have common views on how to approach investing, it has become common practice to distinguish between different styles of investing, particularly between value and growth. There is now general agreement on what these terms mean. See, for example, Coggin, Fabozzi, and Arnott [1997].

Usually a value investor is considered to select stocks that seem inexpensive compared to the fundamental value of the firm and for which a price rebound is expected. A growth investor selects stocks expecting an acceleration of earnings growth, and consequently a run-up in price. We can say that in this sense value investors make short-term bets, as they play on price movements that are usually short-lived, compared to growth investors, who bet on more structural changes in the firm. In any event, the style of investors can be recognized by looking at the stocks they select and how their portfolios fare.[1]

From a firm management point of view, the distinction between growth and value is made as well. Some firms have an ambitious development program aimed at gaining market share in the short run at the expense of current revenue, thus diminishing actual return on equity. Such firms qualify for classification as growth. Other firms have business operations that are intended to generate moderate and stable revenue over time, maintaining more stable return on equity figures; they therefore qualify for classification as value.

Depending on what they want to achieve, investors tend to favor the first type of firms or the second type, and are thus categorized themselves. It is interesting to note that in this context "value investment" is perceived as searching for the security of stable earnings rather than searching for short-term price gains. These two notions of value are different, and it is important to make the distinction. To be clear, we mean by value investment a *search for mispriced opportunities*.

Along with the categorization of fund managers and investment styles, it has become customary to divide individual stocks into style classes as well. The distinction is usually made on the basis of instant-in-time valuation ratios, like price-to-earnings (PE) or price-to-book (PB), when a stock with a high PE is referred to as growth and a stock with a low PE as value. Style indexes on the market make use of this principle.

Broadly speaking, stocks are then ranked at a given time according to their PE or PB ratios. The top half are the growth stocks and the bottom half the value stocks.

Style indexes are defined on these two groups of stocks, which change composition at regular intervals. The style indexes of Morgan Stanley Capital International (MSCI) are an example (see "MSCI Value and Growth Indices Methodology" [1997]). Such indexes are increasingly used as standard references on how the two styles

EXHIBIT 1
Performance of MSCI Growth and MSCI Value

Annual Return over 1992-2001

Market	MSCI Market	MSCI Growth	MSCI Value	MSCI Growth Adjusted*	MSCI Value Adjusted*	Adjustment[†]
	(1)	(2)	(3)	(4)	(5)	(6)
United States	15.3	15.8	14.5	18.6	12.4	4.9
Japan	0.2	-1.6	2.2	2.7	-1.3	7.8
Great Britain	10.1	8.9	11.4	11.3	9.3	4.5
Germany	12.5	10.3	14.9	14.2	13.1	5.7
France	15.0	13.7	16.2	16.9	13.5	5.9
Switzerland	15.8	12.1	20.2	13.6	19.2	2.5

*After withdrawing stocks moving from growth to value, or from value to growth.
[†]Total absolute effect of adjustments.

Annual Active Return over Market

Market	MSCI Growth	MSCI Value	Growth: Potential	Value: Potential
	(7)	(8)	(9)	(10)
United States	0.5	-0.8	3.3	4.9
Japan	-1.8	2.0	2.5	7.8
Great Britain	-1.2	1.3	1.2	4.5
Germany	-2.2	2.4	1.7	5.7
France	-1.3	1.2	1.9	5.9
Switzerland	-3.7	4.4	-2.2	2.5

Calculated by authors.

are performing and as benchmarks for assessing individual style investors.

There seems to be confusion, whether semantic or conceptual, between a value or a growth *investor* and a value or a growth *stock*. In both cases, stocks are classified by a certain criterion, but the particular criterion need not be the same. If this is so, the two-way classification of style stocks doesn't necessarily correspond to the stocks one would find in a typical value portfolio or growth portfolio.

A growth investor may very well hold stocks with a low PE for reasons that affect the price temporarily but that leave the longer-term growth potential unaffected. In the same way, a value investor may hold stocks with a high PE if there is nevertheless scope for them to appreciate in the short run.

It may be misleading to classify stocks into value and growth on the basis of a criterion that changes in value

at every instant—or at least at very short intervals—when we want to assess the long-run performance of an investor. As evidence, we differentiate in the dynamics of the MSCI style indexes what reflects short-term price movements and what reflects the structural component of the classification criterion. The results of our experiment are shown in Exhibit 1.

The annualized returns of the MSCI growth and value indexes are given in columns (2) and (3) for six important equity markets over the ten years 1992–2001. In the index definition, stocks are classified every six months into two groups of equal market value on the basis of price-to-book ratio.[2] Over the period, the MSCI value index did better than the growth index in all countries except in the United States.

Columns (4) and (5) indicate what the index returns would have been eliminating the stocks that changed from one style group to the next over six months; this is

in the hypothetical case of perfect foresight as to style changes. In other words, growth adjusted and value adjusted are portfolios of stocks classified as growth or as value at least twice in a row, so for at least 12 consecutive months. By making this adjustment we moderate the short-term price fluctuations to some extent, which leads to classification of stocks as growth or as value independently of their long-term characteristics—"long-term" meaning here for at least 12 months.

Note that the performance of the growth index improves significantly when we make this adjustment, while the performance of the value index deteriorates. This result is to be expected. In effect, by discarding stocks that change style group, we remove from the growth index stocks for which the price has dropped to such an extent that the stock moves from the top half of the stock ranking by price-to-book to the bottom half. The performance of the stocks that remain classified as growth is bound to improve.

Exactly the opposite happens on the value side. The stocks are removed that have appreciated to such an extent that they have moved to the top half of the ranking, and the average performance of the stocks that remain value deteriorates.

Column (6) in Exhibit 1 shows the total effect on the performance of the growth and value indexes of removing the changed stocks. It is the absolute difference between the value index (3) and the value adjusted index (5) plus the absolute difference between the growth index (2) and the growth adjusted index (4). This is exactly equal to the return of a portfolio with a long position in stocks moving from value to growth and a short position in stocks moving from growth to value. If the style moves were known in advance, a value investor would be inclined to hold exactly this portfolio, as it plays purely on price movements.

The potential gain of such a strategy is indicated in column (10), which is thus identical to column (6). A growth investor could outsmart the market, if the style moves were known in advance, by holding a long-only portfolio of truly growth stocks, deliberately excluding the eliminated stock. The potential gain over the market is reported in column (9).

This experiment shows a number of things. First, eliminating the changes, and by this dampening the time influences in the style classification, has a great effect, and more importantly an asymmetric effect, on the performance of the style indexes. For this reason using style indexes as a general reference of style performance can be misleading.

Second, note that the performance of the growth and value investment strategies as they are defined above has little in common with the performances of the respective style indexes, either adjusted or non-adjusted. It leaves a large gap between stock styles and investment styles, which suggests that style indexes as constructed may not be a good proxy for investment styles.

Third, the growth and the value strategy are not per se in competition. In fact, in the experiment they appear both to be winning strategies. It might seem as if the value strategy produces higher gains than growth, yet the turnover associated with this strategy is clearly much higher, so that after transaction costs the two may actually be even.

We come to the same conclusions when we analyze more closely the experiments that Fama and French [1998] carried out to demonstrate that value stocks outperform growth stocks. In our replication of their experiments, value's dominance fades as soon as we eliminate the stocks that move to another style according to their definition.

Our experiment is of course not realistic, because it involves perfect foresight. Its objective is merely to illustrate that there is a confusion in the style definition, that the longer-term vision of growth investors is confused with the generally shorter-term vision of value investors. Such confusion might perhaps be justified if it were absolutely impossible to make any prediction about short-term price movements. Such an assumption, however, is as unrealistic as the prediction of style changes. There may be a more sensible way to approach the issue.

VALUE AND GROWTH: EXPLICITLY INTRODUCING THE TIME DIMENSION

We have argued that the value/growth classification on the basis of instant valuation ratios is unsatisfactory in that it ignores the different time perspectives of growth and value investors. Recognizing this fact automatically leads to a two-dimensional classification of stocks, which means that value and growth are no longer one another's direct opposites, but are defined independently according to two separate criteria.

In such a framework, a stock may be characterized as growth and value at the same time, particularly when the underlying firm has a strong potential for growth and is momentarily undervalued. A stock may just as well be neither of the two, if the underlying firm has a moderate growth perspective and the stock is normally priced or overvalued.

In other words, instead of requiring that stocks belong strictly to one or the other style group, we allow stocks to be on the one hand value or not, and on the other hand growth or not. The idea to oppose a style class to its complement is not new. It has been explored by Lakonishok, Shleifer, and Vishny [1994], and by Ahmed and Nanda [2001].

Calling for convenience the stocks that are not value "non-value" and the stocks that are not growth "non-growth," we obtain the two-dimensional classification as given in Exhibit 2. We initially use PE ratios as the financial indicator for classification.

As the time perspective is longer for growth investors, it seems reasonable to define growth by the average PE over a certain period prior to the classification date, denoted as $\overline{PE}$. The investment horizon of a value investor is shorter, and the criterion should indicate the current price level of the stock. A logical approach is to compare the observed PE with its past value, $PE - \overline{PE}$. In this framework the structural valuation of stocks is clearly separated from the time effects.[3]

These two criteria, the historic average and the divergence from it, make an implicit reference to the mean-reversion property of PE ratios, or more generally the tendency to return to an equilibrium.[4] If this property holds, the equilibrium value is equal to the average observed over a sufficiently long period of time, and we can take this criterion to classify stocks structurally, calling the stocks with a high $\overline{PE}$ *growth* and the ones with a low $\overline{PE}$ *non-growth*.

Value investors exploit the mean-reversion property, supposing it exists. They buy stocks that are trading below their equilibrium value in anticipation of a price correction. Hence, *value* stocks are those for which the observed PE is below the historic average; if not, they are *non-value*.

The dividing line between what is considered high and low may be placed halfway in the stock rankings, so that the two halves are equal in terms of numbers or in terms of their market value, as in the MSCI style indexes. Alternatively, there may be a buffer of undefined stocks, as in the Fama and French experiments. They define the top 30% in the stock rankings to be growth stocks—using an equal weighting—and the bottom 30% the value stocks. The difference is that, once again, the Fama and French rankings are based on instant valuation ratios.

The difference in time horizon between the two types of style investor leads not only to two separate classification criteria, but also to a difference in how often stocks are reclassified over time. Reclassification should be less frequent for growth stocks, allowing for a longer holding period in which growth may pick up and produce results. Value stocks should be rebalanced as soon as the price correction has occurred.

In this case, the grid in Exhibit 2 is somewhat misleading. The four interior cells are not fixed sets of stocks, as, for example, the cell with both value and growth stocks. Their composition changes over time, and there is a higher turnover among value than among growth stocks. It would therefore not be a meaningful exercise to compare the performance of these four cells, because we would be confusing bets with different holding periods. Instead we look at the performance of the four exterior cells only, thus comparing similar holding periods.

We compare the performance of the style portfolios based on the double classification and the traditional style portfolios based on instant stock rankings. We do this in the setting that Fama and French [1998] use in their experiments, applying the 30/40/30 cutoff to make the division between growth and value, growth and non-growth, and value and non-value. For the value/non-value definition, the 30% of stocks with the lowest $PE - \overline{PE}$ are value, and the 30% highest are non-value, regardless of when the sign of this criterion changes in the stock ranking.

EXHIBIT 2
Two-Dimensional Style Classification

	Value	Non-Value	
Growth	Strong growth Inexpensive	Strong growth Expensive	Strong growth
Non-Growth	Moderate growth Inexpensive	Moderate growth Expensive	Moderate growth
	Inexpensive	Expensive	

EXHIBIT 3
Performance Comparisons—Fama and French versus Two-Dimensional Classification

Annual Return 1991-2001

Market	FF Value	FF Growth	FF Value Premium	Value	Non-Value	Value Premium	Growth	Non-Growth	Growth Premium
1. Six Largest Markets									
United States	26.1	25.4	0.6	21.0	17.5	3.5	23.3	23.9	-0.6
Japan	6.0	-1.0	7.0	6.4	-0.4	6.8	-5.0	2.7	-7.7
Great Britain	17.7	11.2	6.6	19.3	10.7	8.6	9.9	17.9	-8.0
Germany	16.1	18.1	-2.0	14.6	3.5	11.1	14.1	11.0	3.1
France	23.9	25.7	-1.8	19.0	12.7	6.3	14.4	17.8	-3.4
Switzerland	17.5	15.0	2.5	15.1	10.9	4.3	12.0	14.5	-2.6
2. Other Markets									
Australia	17.1	13.7	3.5	12.9	11.4	1.5	10.0	19.2	-9.2
Belgium	19.8	10.0	9.7	13.8	17.0	-3.2	6.2	19.3	-13.1
Hong Kong	29.5	25.8	3.7	20.6	11.3	9.3	20.9	28.3	-7.4
Italy	11.7	15.0	-3.3	16.9	11.2	5.8	10.6	10.1	0.5
Netherlands	16.6	52.6	-36.1	14.2	25.0	-10.8	22.7	20.8	1.9
Singapore	14.6	23.5	-8.9	19.6	8.8	10.8	13.4	18.4	-5.0
Sweden	16.2	43.5	-27.3	23.1	25.6	-2.5	26.0	20.7	5.3

Information Ratios*

Market	IR FF Value	IR Value	IR Growth
United States	0.0	0.3	0.0
Japan	0.8	0.5	-0.7
Great Britain	0.6	0.6	-0.5
Germany	0.0	0.7	0.1
France	0.1	0.5	-0.2
Switzerland	0.1	0.3	-0.1
Australia	0.4	0.1	-0.6
Belgium	0.7	-0.2	-0.8
Hong Kong	-0.1	0.5	0.1
Italy	-0.2	0.4	0.1
Netherlands	-0.4	-0.5	0.0
Singapore	-0.3	0.6	-0.1
Sweden	-0.5	-0.1	0.2

*Active return over active risk. Calculated by authors.

The growth/non-growth division occurs once a year in December. For the value/non-value definition we change the reclassification frequency to be monthly. The experiment is carried out in the same 13 equity markets that Fama and French study, including the six largest markets as in Exhibit 1.

We use the same universe definition given by MSCI, which is not back-filled, meaning that it includes historical data on firms that disappear and does not include data on newly added firms, so that the database is relatively free of survivorship bias. Dividends are included in the return calculations.

Our test period is different, though, from 1991 through 2001, rather than the Fama and French study period, which runs from 1975 through 1995. We replicate the Fama and French style definition using PE ratios only instead of a combination of several valuation ratios. The earnings are the forecasted smoothed earnings provided by IBES. In the growth/non-growth definition as well as in the value/non-value definition, the average PE ratios are calculated over 12 trailing months. Longer estimation windows up to two years give similar results.

The first three columns of Exhibit 3 are in line with the results obtained by Fama and French [1998]. The return on their definition of value, denoted as FF value, is superior or equal to that of FF growth in the six biggest markets and in 8 of the 13 markets.[5]

We have argued that this result is largely due to short-term price movements and that value's dominance would fade as soon as that effect dissipated. The classifications value/non-value and growth/non-growth are given for this purpose, to separate the influence of the

short-term price movements from the long-term structural bets, and to show that it is value defined in this way that outperforms.

Note in Exhibit 3 that indeed value outperforms non-value convincingly, and that its premium is much better than the Fama and French value premium in nine markets. The IR corresponding to the value/non-value premium is at least 0.3 in 9 of the 13 markets, while for the IR of the FF value premium this is the case in four markets. If we look at the other dimension, the more permanent division of stocks into growth and non-growth based on more structural style characteristics, no particular trend emerges. The performance of growth is negative in 7 out of 13 markets.

The basic result is that the more permanent division of stocks based on structural style characteristics does not reveal any persistent outperformance of one group over the other, while the less permanent division of stocks exploiting a supposed mean-reversion property of PE ratios does reveal a persistent outperformance. This result confirms the findings of our first experiment, and leads us to conclude that the widely reported dominance of value over growth stems predominantly from the price effect in the definition rather than the more structural characteristics of the stocks.

Very similar results are obtained for the same experiment using PB ratios instead of PE ratios as the financial indicators. That is, we do not use reported monthly PB ratios, where typically the annual (or quarterly) reporting of the book values produces discontinuities in the PB series. Instead, we take the annual book values provided by MSCI, which we smooth using time-weighted averages. In the experiments of Fama and French and in the standard style definition, this issue of discontinuity is not as relevant, since only cross-sectional comparisons are made. In our experiment, though where time series comparisons are made as well, it is necessary to smooth the fundamental data.

As can be seen in Exhibit 4, the value premium (in the sense of Fama and French) actually becomes more evident, while the value/non-value premium weakens slightly. Exhibit 4 shows that the mean-reversion behavior is more pronounced in PE than in PB ratios. Unlike book values, earnings forecasts are revised from month to month and provide an additional adjustment mechanism to the price correction mechanism. The growth/non-growth performance is not very different for the two valuation ratios, showing that, once the mean-reversion effect is eliminated, there is less effect on performance whether the structural

stock price levels are compared with earnings, book values, or something else. Overall the results are very similar, which reconfirms our main conclusion.

The experiment results seem to be more in line with the Fama and French interpretation of a distress factor than with Daniel and Titman's idea that stock characteristics are responsible for the dominance of value. The value premium becomes higher than the one found by Fama and French, when, as is demonstrated, the price effect is isolated.

Recall that we do this by two means: by comparing the current valuation ratios with their historic averages, and by making reclassification more frequent. The value premium may therefore be interpreted as a mean-reversion effect in the PE ratios that is partially predictable—although a large part of this premium is probably compensated by the relatively high transaction costs involved in seizing the investment opportunity, if not by a slight survivorship bias in the test stemming from the fact that minimum criteria are put on stocks in order to qualify for and to remain in the MSCI index.

Note that a structural division of stocks based on constant and easily identifiable characteristics, by which one set is outperforming—and continues to outperform—its complement, is unlikely in a market that is efficient.[6] See Daniel and Titman [1997, 2001] and the reaction of Fama and French [2001]. The reason Daniel and Titman do find a value premium is we think related to the fact that in their experiments stock characteristics are defined on the basis of, once again, *instant* price-to-book ratios, which reintroduces the problem of confusing time and structural elements.

Ahmed and Nanda [2001] also experiment with a two-dimensional classification of stocks using two independent criteria. They use the usual instant price-to-book criterion to distinguish between value and its complement, and a measure of past earnings growth to distinguish between growth and its complement. Since the holding period is set to one year for both dimensions, they can compare the intersecting classes directly, and they show that the class of stocks that are both value and growth according to their definition outperforms.

By the same reasoning that runs throughout our arguments, the Ahmed-Nanda result can be better understood. In their value class there are stocks whose PB ratios are low for temporary reasons and others for which they are low structurally. By superimposing the more structural criterion of past earnings growth, we filter out the ones that are low for structural reasons, leaving the ones that are low temporarily, which we show are set to outperform.

Exhibit 4

Performance Comparisons—Fama and French versus Two-Dimensional Classification Based on PB Ratios

Annual Return 1991-2001

Market	FF Value	FF Growth	FF Value Premium	Value	Non-Value	Value Premium	Growth	Non-Growth	Growth Premium
1. Six Largest Markets									
United States	23.9	21.0	2.9	21.4	16.7	4.8	17.9	20.2	-0.6
Japan	1.7	-5.0	6.8	6.4	-1.2	7.6	-6.8	-1.4	-7.7
Great Britain	13.1	12.4	0.6	16.5	12.0	4.5	9.7	10.3	-8.0
Germany	13.9	11.9	2.0	10.8	9.0	1.8	9.3	9.8	3.1
France	23.8	20.4	3.4	17.1	17.1	0.0	11.8	14.8	-3.4
Switzerland	16.8	5.8	11.0	11.8	13.2	-1.4	3.1	11.1	-2.6
2. Other Markets									
Australia	15.7	2.1	13.7	7.2	14.9	-7.6	4.1	10.9	-9.2
Belgium	13.4	10.7	2.7	11.8	14.3	-2.5	6.8	9.8	-13.1
Hong Kong	17.7	22.9	-5.2	19.2	14.8	4.4	17.8	15.5	-7.4
Italy	11.8	8.1	3.7	15.5	16.7	-1.2	5.5	9.6	0.5
Netherlands	24.3	19.2	5.1	20.4	21.4	-1.0	19.2	16.9	1.9
Singapore	15.9	15.1	0.8	17.6	11.4	6.2	11.3	10.8	-5.0
Sweden	34.1	26.0	8.0	24.3	19.8	4.5	22.0	22.0	5.3

Information Ratios*

Market	IR FF Value	IR Value	IR Growth
United States	0.3	0.4	-0.2
Japan	0.4	0.5	-0.4
Great Britain	0.1	0.4	-0.2
Germany	0.1	0.1	0.0
France	0.1	0.0	-0.1
Switzerland	0.4	-0.1	-0.4
Australia	0.6	-0.5	-0.3
Belgium	0.2	-0.1	-0.3
Hong Kong	-0.2	0.2	0.2
Italy	0.2	-0.1	-0.3
Netherlands	0.1	0.0	0.1
Singapore	-0.1	0.3	0.1
Sweden	0.0	0.2	0.1

* Active return over active risk. Calculated by authors.

CONCLUSION

We have explored the implications of the conventional style definition that divides stocks into growth and value classes on the basis of current values of PE or PB. We question whether this definition is a realistic approximation of the investment styles that growth and value managers pursue, and whether various researchers have performed valid experiments when they claim to find a premium on value stocks.

Our studies give evidence that classifying stocks as growth or value by their current value of PE tends to confuse the more structural investment perspective of growth investors with the usually shorter-term vision of value investors. To be precise, investing in a value stock in certain cases means buying a momentarily undervalued stock; in other cases, it means buying a stock whose earnings or dividends are structurally high with respect to its price. In the former, there is potential for a short-term price gain; in the latter, the choice of stock may be justified by other longer-term considerations. In any event, it is important to clearly distinguish between two such types of investment.

We have demonstrated in particular that if we redefine the value class purely on temporary mispricing, notably by comparing the current PE of stocks with historic means, we obtain positive return figures for value that greatly exceed the value premium associated with the conventional style definition.

We have not been able to establish a growth premium like this, although we do not believe growth investment is a structurally less rewarding investment strategy than value. We believe that, while it is quite clear what a growth investor aims for, it is difficult to find a variable based on publicly accessible data that actually captures a growth investor's pick of stocks satisfactorily. It is based rather on a more profound non-quantifiable knowledge of stocks and firms.

ENDNOTES

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[1]More precisely, the style of an investor can be recognized by means of a holdings-based assessment comparing portfolio holdings to those of the style indexes, or by means of a return-based assessment, as suggested by Sharpe [1992], comparing portfolio returns and the style returns directly.

[2]For the exact index definition, see: www.msci.com/method/valuegrowth.pdf.

[3]We could also classify value stocks as those whose price has dropped below a certain threshold. We would then deploy a contrarian investment strategy consisting of buying stocks whose prices have dropped. Such a strategy is envisioned by Lakonishok, Shleifer, and Vishny [1994].

[4]There is confirmed evidence on an aggregate country level—see, for example, Campbell and Shiller [1987].

[5]Over the period 1975–1995, Fama and French find a dominance of FF value over FF growth in 12 out of 13 markets.

[6]It is in line with the CAPM and the APT under long-term equilibrium.

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