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Blinded by Growth

by Javier Estrada, IESE Business School*

Who does not like a growth story? Investors often hear recommendations to invest in China, or India, or Brazil to participate in the growth of these economies. Investors also often hear recommendations to invest in fast-growing companies like Google, or LinkedIn, or Facebook. And who can deny the appeal of these and many other growth stories?

But there is a problem with growth: as an investment thesis, it is not enough. In other words, high economic or corporate growth may not necessarily turn into high returns for investors. In fact, from an investor's point of view, growth is typically overrated; it often disappoints and, over the long term, as shown by an impressive body of research, it is outperformed by investing in cheap, underrated, unfashionable companies. And this is not because growth *per se* is detrimental or irrelevant. It is because growth should be a part of the story, *but never the whole story*. In other words, investors should pay attention both to growth *and to how much they pay* for growth.

This article will consider growth from three different points of view. First, we will look into the relationship between economic growth and equity returns. Then we will discuss the relationship between corporate growth and equity returns. And, finally, we will compare investing in growth-oriented companies with investing in value-oriented companies.

Economic Growth and Equity Returns

Most investors take it for granted that investing in fast-growing economies like China or India will translate into high returns in their pockets. That is a big mistake. Figure 1 shows, for each of 19 developed economies, the annualized real equity return (the first bar for each country) and the annualized growth of real GDP per capita (the second bar for each country) during the 112-year period from 1900 through the end of 2011.² As a quick visual inspection will tell you, economic growth and equity returns are clearly not positively correlated. In fact, the correlation coefficient between these

two variables is a *negative* 0.39.

Some may question the relevance of evidence from over 100 years ago because economies and markets have changed substantially over time. But evidence from a more recent period comes to essentially the same conclusion. Figure 2 shows the annualized real equity returns and growth rates of real per capita GDP for 21 countries over the most recent 42-year period (1970-2011). The correlation coefficient of -0.04 together with a p-value of 0.87 clearly indicates no correlation between growth and equity returns.

Others may argue that economic growth and equity returns should be correlated in emerging countries, but not necessarily in developed ones. This argument is also somewhat questionable, but a look at the evidence again reaffirms our previous conclusion. Figure 3 shows, for 15 emerging countries, the annualized real equity returns and growth rates in real per capita GDP over the still more recent period 1988-2011. Once again, simple visual inspection of this figure makes clear the absence of any positive correlation between economic growth and equity returns. And as before, the correlation coefficient of -0.41 and a p-value of 0.13 suggest that growth and returns are simply not correlated.

Note that in all three exhibits, the equity returns are measured in local currency. Would the correlations discussed change if returns were measured in dollars instead? Not substantially, and not in a way that would affect any of the conclusions drawn. The correlations between economic growth and equity returns when the latter are measured in dollars are -0.32 (with a p-value of 0.18) over 1900-2011 for the countries in Figure 1; 0.01 (with a p-value of 0.95) over 1970-2011 for the countries in Figure 2; and -0.47 (with a p-value of 0.08) over 1988-2011 for the countries in Figure 3.

Obviously, many other arguments can be raised, particularly in terms of how economic growth and equity returns are measured. Exhibit 1 reports, for 24 developed countries and 21 emerging countries (as well as 45 countries combined), the correlation coefficients between economic growth, as measured by both real GDP and real GDP per capita, and

1. I would like to express my thanks for the comments of Tom Berglund, Jack Rader, David Walker, and the many participants that attended my "Blinded by Growth" presentations around the world. Sergi Cutillas provided valuable research assistance. The views expressed below and any errors that may remain are entirely my own.

2. The data for Figures 1-3 was kindly provided by Jay Ritter, who discusses it more in depth in his article in this same issue; see Jay Ritter, "Is Economic Growth Good for Investors?," *Journal of Applied Corporate Finance*, Volume 24 Number 3 (Summer 2012). See, also, Jay Ritter (2005), "Economic Growth and Equity Returns," *Pacific-Basin Finance Journal*, 13, 489-503.

Figure 1 Economic Growth and Equity Returns, 1900-2011

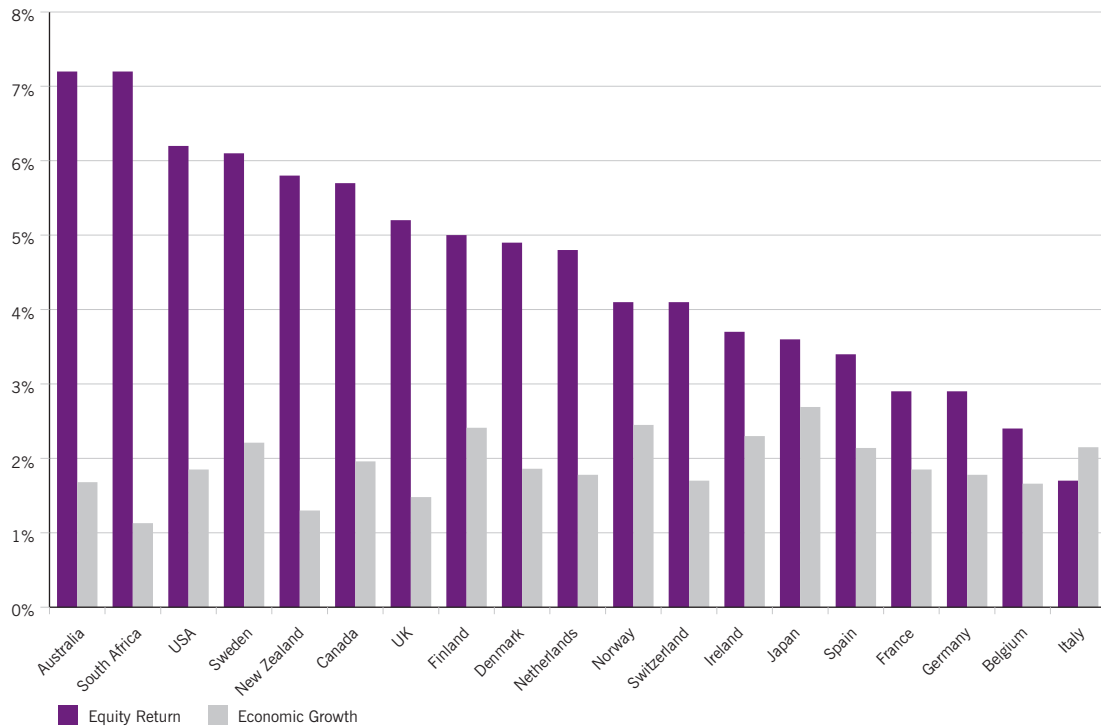


Figure 2 Economic Growth and Equity Returns, 1970-2011

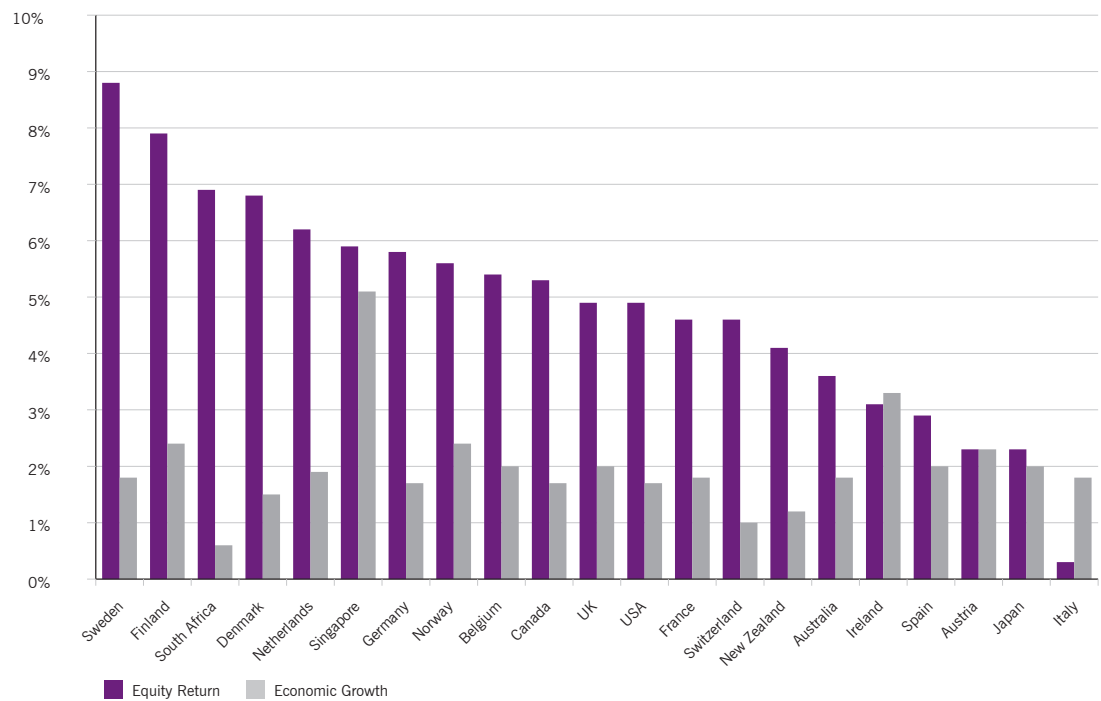


Figure 3 Economic Growth and Equity Returns, 1970-2011

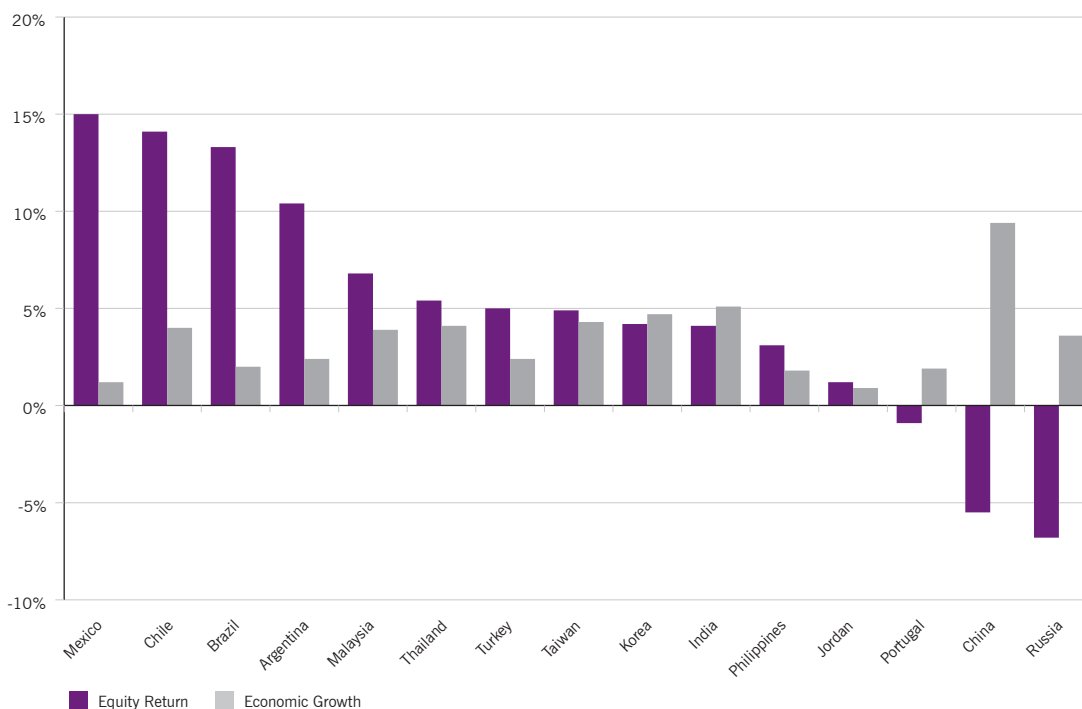


Exhibit 1 Economic Growth and Equity Returns

This exhibit shows correlation coefficients and *p*-values (in parentheses) between economic growth and equity returns. The former is measured by the annualized growth of real GDP and real GDP per capita; the latter is measured by the annualized real return of the equity market in local currency (R-L) and in dollars (R-\$). GDP data is from Datastream. Return data is based on MSCI indices and account for capital gains/losses and dividends. The sample consists of 24 developed countries and 21 emerging countries as classified by MSCI. The sample period varies by country, starting in 1987 or later, and in all cases through the end of 2010.

	All Countries		Developed		Emerging	
	R-L	R-\$	R-L	R-\$	R-L	R-\$
GDP	0.25 (0.09)	0.20 (0.18)	0.01 (0.96)	-0.06 (0.77)	-0.12 (0.60)	-0.13 (0.59)
GDP per capita	0.20 (0.20)	0.17 (0.25)	-0.09 (0.69)	-0.13 (0.54)	-0.19 (0.41)	-0.14 (0.54)

equity returns, as measured in both local currency and in dollars. As the *p*-values (in parentheses) show, *none* of these correlations is statistically different from zero (at the standard 5% level of significance). In other words, it matters little how economic growth and equity returns are measured, these two variables do not seem to be positively correlated.

The inevitable question, then, is why do we observe this lack of correlation between economic growth and equity returns? The reasons may be many and varied, but we will

focus here on three.³ First, it is often the case that the companies that benefit the most from the growth of a given country are based in a different country. Nike, Coca Cola, Nestle or Nokia, to name but a few, obtain a substantial portion of their profits from selling products in fast-growing economies, and it is the shareholders of these and other multinational companies that profit from such growth. Many Spanish companies obtain substantial profits from Latin American economies, and it is the shareholders of those Spanish companies that

3. Ritter (2005, 2012) and Elroy Dimson, Paul Marsh, and Mike Staunton, (2010), "Credit Suisse Global Investment Returns Yearbook 2010," Credit Suisse, explore others.

Exhibit 2 Corporate Growth and Equity Returns – Google

	Jan/1/2006		Growth	(Annualized)	Jun/30/2010
Price	\$414.9	→	7.3%	(1.6%)	→ \$445.0
EPS	\$5.02	→	358.8%	(40.3%)	→ \$23.03
P/E	82.6	→	-76.6%	(-27.6%)	→ 19.3

Exhibit 3 Corporate Growth and Equity Returns – Amazon

	Jul/1/2004		Growth	(Annualized)	Dec/31/2008
Price	\$54.4	→	-5.7%	(-1.3%)	→ \$51.3
EPS	\$0.65	→	130.8%	(20.4%)	→ \$1.50
P/E	83.7	→	-59.2%	(-18.0%)	→ 34.2

pocket the returns of those investments.

Second, the largest companies in most countries—and hence those that have the most weight in the local stock market index, particularly in emerging economies—tend to sell their products and services in international markets; and, as a result, they may be somewhat protected against downturns in the local business cycle. To the extent this is so, fast or slow economic growth in a given country may not have a substantial impact on the profitability of the (large) companies in that country.

Finally, a third—and perhaps the most critical—factor is the price that investors pay for growth. More precisely, it is the possibility that investors are so eager to participate in a country's growth prospects that they largely ignore the price they pay to do so. Are investors so blinded by growth prospects in China, India or Brazil that they are willing to participate in it at “any” price?⁴ Although more research is needed on this issue, given the rather recent experience during the Internet bubble (to name but one example), it is not hard to believe that when growth expectations are very high, investors seem largely oblivious to the price they pay to participate in the expected profits of such growth.

In short, then, contrary to the conventional wisdom, the evidence suggests that economic growth and equity returns are not positively correlated. The reasons for this may be many and varied, but the following three—multinational companies' disproportionate share of the equity returns in fast-growing economies; the exposure of large companies in fast-growing economies to international markets and resulting isolation from their local markets; and investors' tendency to overpay for the growth prospects of fast-growing economies—may go a long way in explaining this somewhat puzzling finding.⁵

Corporate Growth and Equity Returns

Most investors, as already mentioned, take it largely for granted that investing in fast-growing economies will translate into high returns. Similarly, most investors take it largely for granted that investing in fast-growing *companies* will translate into high returns. That is another big mistake. In fact, superb corporate performance may turn into low returns for investors, while mediocre performance may end up producing exceptional returns. Investors' willingness to pay up for growth prospects provides a plausible explanation for this puzzle.

The Internet bubble is again a case in point. Investors who are willing to buy shares trading at P/E multiples of 100, 200, and higher can only be relying on the “greater fool” theory; that is, although they are fools for paying that price, they expect to find a greater fool to sell to at an even higher price. In the medium-to-long term, P/E multiples of that magnitude can go nowhere but down, with the subsequent impact on returns.

To get a bit technical, note that in any given period the return (R) of a company that pays no dividends can be written as

$$R = (1 + g_E)[1 + \Delta(P/E)] - 1,$$

where g_E is the growth of earnings per share and $\Delta(P/E)$ is the change in the P/E multiple, in both cases over the period considered.⁶ As this expression shows, positive earnings growth has a positive impact on returns, but *only if such an effect is not outweighed by a change in valuation (a change in*

4. Jeremy Siegel makes this argument in his widely cited 1998 book, *Stocks for the Long Run*, McGraw-Hill. But in the article that precedes mine in this issue, Jay Ritter plausibly counters that this argument has less merit when assessing data from over 100 years.

5. Consider, finally, a related and interesting fact: Over the 17 years between 1965 and 1981, the Dow gained just 0.1%. During the bull market that followed, from 1982

through March 2000, the Dow gained 1,239%. During both periods, the growth of real GDP was exactly the same: 76%. See John Mauldin (2012), *The Little Book of Bull's Eye Investing*, Wiley, chapter 3.

Exhibit 4 Corporate Growth and Equity Returns – The World Market

This exhibit shows information on the Datastream World Market equity index of developed and emerging markets, in dollars, and accounting for capital gains/losses and dividends.

Panel A	Jan/1/1995		Growth	(Annualized)	Dec/31/1999
Index	564.3	→	120.4%	(17.1%)	→1243.5
EPS	\$27.4	→	48.8%	(8.3%)	→ \$40.8
P/E	20.6	→	48.1%	(8.2%)	→ 30.5
Panel B	Jan/1/2000		Growth	(Annualized)	Dec/31/2004
Index	1243.5	→	-12.6%	(-2.6%)	→1087.4
EPS	\$40.8	→	50.7%	(8.5%)	→ \$61.4
P/E	30.5	→	-42.0%	(-10.3%)	→ 17.7

the P/E) in the opposite direction. A couple of examples may help to illustrate this critical point.

Exhibit 2 displays information about Google over the period from the start of 2006 through June 30, 2010. At the beginning of this period, Google traded at \$414.9 a share, had earnings per share (EPS) of \$5.02, and a P/E ratio of 82.6; at the end of it, these figures were \$445.0, \$23.03, and 19.3, respectively. Google's corporate performance, as measured by its earnings growth of over 40% a year, was spectacular.⁷ And yet over the same period, investors pocketed an annualized return of just 1.6% (or a holding-period return of just 7.3%, when earnings grew over 358%).

How can such a spectacular corporate performance turn into such a poor return for investors? Let's start with the math: The holding-period return can be calculated using the following expression for capital appreciation:

$$R = (1+358.8\%)(1-76.6\%) - 1 = 7.3\%.$$

And because Google did not pay any dividends over this period, the 7.3% capital gain was the only return in the pocket of investors.

What is the intuition behind the math? Although Google's earnings grew at a very high rate, its P/E moved in the opposite direction, canceling most of the positive impact of the earnings growth on returns. Put briefly, investors overpaid for growth. In fact, investors who bought shares at a P/E of over 82 could hardly expect that multiple to grow or even remain steady over time; the P/E had much more downside potential than upside potential and, as the multiple decreased, it pulled returns down with it.

Consider another company widely considered a success story: Amazon. As Exhibit 3 shows, over the period from July 2004 through the end of 2008, Amazon grew its earnings by 130.8%, or at an annualized rate of 20.4%. However, as the exhibit shows, investors realized a holding-period *negative* return of 5.7%, *losing* money at the annualized rate of 1.3%.

And because Amazon did not pay any dividends during this period, the capital loss was all that investors received in terms of return.

The reasons why this happened should be clear by now. Investors who bought shares at a P/E of over 83 could not expect much upside (and perhaps they should have expected a substantial downside) in terms of valuation. As the P/E traveled downwards to just over 34, it pulled returns down with it, delivering a negative return to investors that can be calculated as follows:

$$R = (1+130.8\%)(1-59.2\%) - 1 = -5.7\% .$$

In the case of Amazon, then, over the period considered the negative impact of valuation was higher than the positive impact of growth, and as a result investors obtained a negative return when investing in a company with superb earnings growth.

Consider, finally, an example that illustrates, perhaps better than any, the relationship between earnings growth, valuation, and returns. Exhibit 4 shows information for the Datastream World Market equity index over two consecutive five-year periods: January 1995 through the end of 1999 (panel A) and January 2000 through the end of 2004 (panel B). As many investors may recall, the first was a very bullish period whereas the latter was a rather bearish period.

The returns perceived by investors in the first and second period were, respectively, as follows:

$$R = (1+48.8\%)(1+48.1\%) + \text{Dividends} - 1 = 140.1\% ,$$

$$R = (1+50.7\%)(1-42.0\%) + \text{Dividends} - 1 = -3.8\% .$$

In both periods, the total return perceived by investors (140.1% and -3.8%) was higher than the capital gains/losses delivered by the index (120.4% and -12.6%) because of the dividends paid by the companies in the index. But needless to

6. This is a simplified version of the Returns Decomposition Model (RDM) for a company that pays no dividends; see Javier Estrada (2007), "Investing in the Twenty-First Century: With Occam's Razor and Bogle's Wit," *Corporate Finance Review*, May/June, 5-14.

7. For perspective, over the last 110+ years, U.S. corporations grew its earnings at an annualized rate of less than 5%.

Exhibit 5 Value versus Growth

This exhibit shows the geometric mean annual return (*GM*), annualized volatility (*SD*), beta (*Beta*), and shortfall risk (*SR*) of value (*V*) and growth (*G*) portfolios over the Jun/1994–Dec/2010 period for different regions. It also shows the terminal value of \$100 (*TV100*) invested in *V* and *G* at the end of May/1994 and held passively through the end of Dec/2010. Shortfall risk is measured as the proportion of months in which *V* underperformed *G*. All regions are represented by MSCI indices, in dollars, and accounting for capital gains/losses and dividends.

	GM (%)		TV100 (\$)		SD (%)		Beta		SR (%)
	V	G	V	Gc	V	G	V	G	
World	7.7	5.8	340	255	15.5	18.1	0.91	1.09	51.3
Developed	7.5	5.8	331	256	15.2	17.8	0.89	1.06	50.8
Emerging	8.6	4.9	395	220	24.3	25.5	1.24	1.34	43.2
EAFE	6.2	4.1	269	195	16.9	17.5	0.97	1.02	48.2
Europe	8.8	8.0	403	357	18.9	18.0	1.05	1.02	50.8
USA	9.0	7.8	417	349	15.0	19.5	0.81	1.08	46.7

say, the returns to investors over these two consecutive five-year periods were dramatically different. And here is the interesting thing: *The annualized growth of earnings over these two periods was virtually identical*; in fact, as the exhibit shows, it was slightly higher in the second period (8.5%) than in the first (8.3%)!

How can this be? The answer should suggest itself by now. It is a matter of *valuation*. During the first period, bullish investors pushed the P/E up at the annual rate of 8.2%, thus enhancing returns; during the second period, bearish investors pushed the P/E down at the annual rate of 10.3%, thus imposing a drag on returns.

Incidentally, the fact that high earnings growth may not necessarily translate into higher stock prices (and P/Es) may be related, at least in part, to the fact that shareholder value is created only when growth generates an appropriate return on capital. In other words, growth requires capital investments, and shareholder value is destroyed if the return on the capital invested is lower than the cost of capital.⁸

In short, it is obviously important for investors to evaluate the growth prospects of the companies in which they invest, but it is just as important for them to assess *how much they pay* for those growth prospects. Everything else equal, the more investors pay for growth, the lower will be their return.

Growth and Value

The third and final issue we will address is the relationship between two investing styles typically referred to as “growth”

and “value.” Neither definition is unambiguous, but here is the big picture about them.

Growth-oriented companies are those with high growth prospects, glamour companies more often than not for which investors are willing to pay high (P/E, P/B, or P/CF) multiples. Value-oriented companies, by contrast, are mature companies with moderate growth prospects, often temporarily out of favor, and for which investors are willing to pay only low (P/E, P/B, or P/CF) multiples.^{9,10}

The evidence clearly shows that, over the long term, value outperforms growth, a well-documented phenomenon that many refer to as the “value effect.”¹¹ To illustrate, in the U.S. between 1927 and 2011, value and growth provided investors with annualized returns of 12.8% and 9.5%. This difference in returns implies that value and growth investors that started the year 1927 with equal investments of \$100 found themselves with \$2,793,713 in the first case and \$229,091 in the second, a substantial difference by any measure.

Exhibit 5 complements the previous figures for the U.S. with more comprehensive international evidence over the period from June 1994 through December 2010. The “*GM*” columns show the annualized return of value (*V*) and growth (*G*) portfolios, and the “*TV100*” columns show the terminal value at the end of 2010 of \$100 invested at the end of May 1994. For the world market, the difference of 190 basis points in annualized returns translates into 33% higher terminal wealth in *V* (\$340) than in *G* (\$255). Furthermore, the \$85

8. See, for example, Nidhi Chadda, Robert McNish, and Werner Rehm (2004), “All P/Es Are Not Created Equal,” McKinsey on Finance, Spring, 12-15.

9. A value investor can be thought of, as suggested, as one that invests in companies that are cheap relative to fundamentals, thus paying low multiples. An alternative (though by no means contradictory) definition is that a value investor is one that invests in companies whose market value is well below their intrinsic value. Ben Graham, Warren Buffett’s mentor, pioneered the approach of investing in companies that provide a “margin of safety;” that is, those whose market value is below their intrinsic value to a degree that, even if unforeseen negative contingencies materialized after the purchase, the company would still remain a good investment at the price paid.

10. Although most portfolio managers would agree with using multiples to distinguish

value-oriented companies from growth-oriented companies, Warren Buffett would disagree. In fact, in his 2000 Letter to the Shareholders of Berkshire Hathaway, he stated: “Common yardsticks such as dividend yield, the ratio of price to earnings or to book value, and even growth rates have nothing to do with valuation except to the extent they provide clues to the amount and timing of cash flows into and from the business. Indeed, growth can destroy value if it requires cash inputs in the early years of a project or enterprise that exceed the discounted value of the cash that those assets will generate in later years. Market commentators and investment managers who glibly refer to ‘growth’ and ‘value’ styles as contrasting approaches to investment are displaying their ignorance, not their sophistication. Growth is simply a component—usually a plus, sometimes a minus—in the value equation.”

difference between the terminal value of these two portfolios amounts to 85% of the initial capital invested. As the exhibit shows, the differences in return and terminal value vary across regions, are particularly large in emerging markets, and in all cases favor the value approach.

The obvious question to ask is whether such differences in return arise from differences in risk. Although this issue gets very technical very quickly, and there is a wealth of academic research on this subject, we can still explore here a few simple but essential issues.

For example, are the higher returns delivered by value a compensation for bearing higher volatility? As Exhibit 5 shows, that is not the case. Except in Europe, where value is slightly more volatile than growth, in the rest of the regions and in the world market, investing in value is actually *less* volatile than investing in growth.

Some may argue that, because we are exploring this issue with rather diversified portfolios, beta may be a more appropriate measure of risk. Is it the case, then, that the higher returns delivered by value are a compensation for bearing higher beta risk? Again, as Exhibit 5 shows, only in Europe is the beta of value higher—and only marginally so—than that of growth. In all the other regions and in the world market, the beta of value is actually *lower* than that of growth.

Still, as much as finance professionals focus on volatility and beta as measures of risk, many investors focus on (absolute or relative) losses. It then becomes relevant to explore whether value tends to underperform growth most of the time, abruptly comes back with a vengeance to more than make up for the lost ground, and then returns to its losing streak. To the extent that is so, it would make value a risky (and painful) proposition for investors. However, as reported in the last column of Exhibit 5, the proportion of months in which value underperformed growth never gets too far from 50%. In other words, value underperforms growth more or less as often as it outperforms growth.

Although this is far from an exhaustive exploration of the relative risk of value and growth, this evidence shows that the higher returns of value do not seem to be a compensation for bearing higher volatility, higher beta, or higher shortfall risk. On the other hand, this evidence should not be assumed to imply that value investing provides a free lunch. There may be “hidden” kinds of risk (many of which are discussed in the finance literature) or other sources of risk that are not hidden but simply difficult to quantify.

To illustrate the latter, note that investors may find that, for many reasons, investing in out-of-favor companies is much easier said than done. First, it is not at all easy to be a contrarian and invest in companies the market shuns while avoiding

companies the market seems to love. How many people had the nerve to invest in utilities or railways, and not in Internet stocks, during the period 1997-1999? Following the “madness of crowds” may be hard to resist.

Second, and related to the previous point, if the market is willing to pay high multiples for some companies and low multiples for others, it may be natural for many investors to think that the market may know something they do not, and therefore avoid value-oriented companies. Surrendering to the “wisdom of crowds” may be hard to resist.

Finally, a critical point: Value outperforms growth in the *long* term, but obviously there are periods in which the opposite happens. Only the investors that stick to value through thick and thin can obtain the higher returns discussed. And yet how many investors were able to stick with value-oriented companies during the 1997-1999 period?

In short, although the glamour of growth-oriented companies tends to blind investors with their growth prospects, the international evidence clearly shows that, over the long term, investing in value-oriented companies provides investors with higher returns. Interestingly, such higher returns do not seem to be associated with higher levels of volatility, beta, or shortfall risk, although this does not necessarily imply that value investing provides investors with a free lunch.

Closing Thoughts

Everybody loves a growth story, but investors should care ultimately about the returns they pocket from their investments, and the risk they have to bear while exposed to those investments. And from that point of view, growth provides an incomplete and misleading story. Blinded by growth, investors often fail to see this fact.

Neither fast economic growth nor fast corporate growth guarantee high returns in the pocket of investors. The reasons are many and varied, but valuation plays a critical role. Investors should pay attention to growth and, perhaps most critical, to how much they pay for that growth.

Needless to say, investing in growth-oriented companies is more glamorous than investing in value-oriented companies. Psychology may also play a role, pushing investors to invest in the former and to shun the latter. But the international evidence is unequivocal: Although it is not entirely clear whether value is riskier than growth, it is quite clear that, in the long term, value investing clearly outperforms growth investing.

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11. See, for example, the early work of Sanjoy Basu (1983), “The Relationship Between Earnings Yield, Market Value, and Return for NYSE Common Stocks: Further Evidence,” *Journal of Financial Economics*, 12, 129-156, and the seminal paper by Eugene Fama and Kenneth French (1992), “The Cross-Section of Expected Stock Returns,”

Journal of Finance, 47, 427-465, among many others. For a practitioner-oriented perspective on the value effect (and the size effect), see my article, “The Three-Factor Model: A Practitioner’s Guide,” *Journal of Applied Corporate Finance*, 23, 77-84.

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