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The Disconnection of Style-Based Investing

Style-based investing has increasingly dominated active management ever since Russell Investments began tracking Growth and Value characteristics in developing style-based indices in 1987. Index developers, such as S&P Dow Jones (S&P) create methodologies that label companies into two basic camps: (i) those who grow quickly and (ii) those whose securities are priced inexpensively, while creating proprietary mechanisms for those companies that are a hybrid of the two. For example, S&P uses elements of EPS growth, sales growth and stock price momentum to judge a constituent's "Growth" tendency; conversely S&P incorporates book/price, earnings/price and sales/price ratio to evaluate a company's "Value" tendency. Since these evaluations take place at the root index levels, well-documented sector biases result: Technology and the newly coined Communications Services sector comprise 25% and 14% of the S&P 500 Growth Index, respectively, compared to 15% and 6%, respectively, for the Value Index[i]. As these index construction differentials give rise to performance differentials amongst the conventional style-based indices, we begin to ask the question, "As styles go in and out of favor, is this nothing more than sector rotation or sectors going in and out of favor?" A related question might be, "If we are in a Growth (Value) market, shouldn't the Growth (Value) securities *within* sectors be outperforming as well?"

In this edition we aim to answer these and other questions by introducing the concept of disaggregating the index data and reassembling growth/value by sector. That is, we redefine how securities' growth and value tendencies stack up *within* their sectors, resulting in a re-characterization of securities' Growth/Value labels. We subsequently re-assemble these constituents into alternative style-based indices – we will call these $Growth_{IP}$ and $Value_{IP}$. Our goal is to determine the level of performance alignment between the conventionally defined and alternative style-based indices, whose disconnection may call into question the validity of style-based investing.

In developing $Growth_{IP}$ and $Value_{IP}$ we utilized the S&P U.S. Style Indices Methodology as detailed by S&P to parse the data at the sector level. Once we have redefined Growth and Value within sectors, we aggregate the securities so that roughly fifty percent of each sector's market capitalization is put into the growth index and the other 50% is placed into the value index to arrive at $Growth_{IP}$ and $Value_{IP}$. At a high level, this construction involves the following steps:

1. Assign Growth and Value Factors for each constituent
   - The Growth Factors used are:
     - Three-year Change in Earnings per Share (Excluding Extra Items) over Price per Share
     - Three-Year Sales per Share Growth Rate
     - Momentum (12-month % Price Change)
   - The Value Factors used are:
     - Book Value to Price Ratio
     - Earnings to Price Ratio
     - Sales to Price Ratio

2. After being winsorized to the 90th percentile, raw values for the above are calculated, standardized and averaged for each constituent such that each has a Growth Score and a Value Score.

3. Style baskets in each sector are created by sorting by the Growth Score/Value Score Ratio
   - By S&P's convention, the highest ranked securities that account for 33% of the group's market capitalization exhibit pure growth characteristics (Pure Growth);
   - The lowest ranked securities that account for 33% of the sort's market capitalization exhibit pure value characteristics (Pure Value);
   - The remaining 33% of the sort's market capitalization are ranked in the middle and these securities exhibit some growth and value characteristics (Hybrid).

4. To create $Growth_{IP}$ and $Value_{IP}$, we aggregate the list of companies at the security level[ii]. Again, approximately 50% of each sector's market capitalization will exist in $Growth_{IP}$ and the other 50% will reside in $Value_{IP}$. 100% of the Pure Growth securities' market capitalizations are put into the $Growth_{IP}$ Index. 100% of the Pure Value securities' market capitalizations are put into the $Value_{IP}$ Index. Finally, with regard to the Hybrid securities, a percentage of these companies' market capitalizations, determined based on their Growth and Value Scores, is put into both the $Growth_{IP}$ and $Value_{IP}$ indices so that 100% of these securities' market capitalizations are accounted for in one index or the other. Those Hybrid securities with a higher Growth Score/Value Score Ratio will take on a higher weight within the $Growth_{IP}$ Index compared to the $Value_{IP}$ Index and vice versa.

5. Finally, we use these market capitalizations to weight each security in their respective index. The annual returns for $Growth_{IP}$ and $Value_{IP}$ are the weighted average returns of their constituents.

6. In addition, in order for us to analyze data by sector, style baskets created in a similar manner are used to create market capitalization weighted Sector Growth and Value Indices (i.e., Technology $Growth_{IP}$ and Technology $Value_{IP}$) in a similar matter. That is, a company's weight in its Sector Growth/Value index is related to its Pure Growth, Pure Value, or Hybrid status as outlined in the creation of the IP indices above.

After compiling the data, the results can be seen in TABLE 1 below. It is interesting to note that in four of the last ten years, the style that outperforms when constructed in the Isthmus Partners' methodology is different than the winner per S&P's convention.

TABLE 1

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10 Year CAGR
S&P 1500 Growth	32.2%	16.7%	4.2%	14.8%	33.1%	13.9%	5.2%	7.9%	26.5%	-0.8%	14.8%
S&P 1500 Value	22.2%	16.1%	-0.7%	17.8%	32.5%	12.1%	-3.5%	18.5%	15.0%	-9.3%	11.4%
Winner	Growth	Growth	Growth	Value	Growth	Growth	Growth	Value	Growth	Growth	
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10 Year CAGR
IP Growth	22.0%	17.8%	3.0%	16.1%	32.1%	11.0%	2.7%	8.8%	23.4%	-3.5%	12.9%
IP Value	31.8%	14.1%	0.9%	15.1%	32.3%	12.9%	-0.5%	15.7%	17.6%	-6.3%	12.7%
Winner	Value	Growth	Growth	Growth	Value	Value	Growth	Value	Growth	Growth	
Same/Different	Different	Same	Same	Different	Different	Different	Same	Same	Same	Same	

Source: FactSet Research Systems Inc.

Perhaps no year demonstrates this more dramatically than 2009. The S&P 1500 Growth Index returned 32.2%, a full ten percentage points higher than the S&P 1500 Value Index. When the $Growth_{IP}$ and $Value_{IP}$ indices were constructed, the results were nearly exactly flipped. The $Value_{IP}$ index returned 31.8%, nearly ten percentage points higher than the $Growth_{IP}$ index. We believe a look into the performance by sector shines light on the discrepancy. The three best performing sectors (using a market capitalization weighted average return) in 2009 were Technology, Metals, and Semiconductors. Technology and Semiconductors are traditionally thought of as growth sectors and will have a disproportionate amount of their constituents in a conventionally defined Growth index compared to a Value index. Technology is of special interest given its relative size. The sector, which returned 60.98% on an overall weighted average basis in 2009, represented about 19.45% of the market value of the S&P 1500 Index compared to just 4.36% of the S&P 1500 Value Index at the beginning of 2009. With a much greater representation in the S&P 1500 Growth Index, this drove a

significant portion of the index's outperformance relative to its Value counterpart. However, recall that each sectors' representation is equally distributed between the indices using our convention, so the influence on index performance (that is, $Growth_{IP}$ and $Value_{IP}$) is less. Moreover, we note that per our definitions, the Semiconductor stocks in the $Growth_{IP}$ index barely outperformed the ones in the $Value_{IP}$ Index in 2009.

The tables below show the returns by sector for the ten-year period broken down by Isthmus Partners defined sectors. TABLE 2 includes the Sector $Growth_{IP}$ portion of our indices while TABLE 3 displays the Sector $Value_{IP}$ portion of our indices. Returns are calculated on a weighted average basis by sector. The color scale represents a sector's relative position as it relates to that year's (column's) set of returns.

TABLE 2

By Sector - GROWTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
Banking	-6.2%	9.9%	-10.5%	24.8%	37.2%	11.7%	-1.3%	20.6%	10.4%	-15.0%	7.0%
Building	-4.8%	15.9%	-13.5%	47.5%	40.0%	5.1%	23.2%	25.7%	13.1%	-25.1%	10.5%
Capital Goods	28.3%	27.5%	-3.4%	16.8%	38.6%	5.2%	-0.1%	12.6%	34.5%	-9.8%	13.9%
Chemicals	22.9%	7.5%	6.2%	22.2%	29.0%	6.6%	-4.6%	11.0%	14.4%	-7.0%	10.3%
Consumer Durables	28.0%	40.6%	-14.3%	31.7%	35.7%	11.2%	6.6%	5.2%	35.6%	-27.0%	13.0%
Consumer Staples	20.8%	17.4%	16.3%	10.4%	22.0%	17.0%	11.2%	5.6%	13.9%	-7.0%	12.4%
Energy	5.8%	20.8%	-5.9%	2.6%	27.0%	-8.1%	-32.7%	29.8%	-4.9%	-16.9%	-0.1%
Financials	33.8%	10.5%	9.1%	24.5%	29.2%	17.8%	6.3%	6.6%	23.4%	1.5%	15.8%
Health Care	12.5%	5.5%	6.3%	20.9%	46.0%	25.8%	6.1%	-9.0%	24.7%	4.9%	13.5%
Insurance	1.3%	20.2%	-2.1%	16.6%	37.2%	14.6%	-4.1%	18.0%	20.5%	-1.1%	11.4%
Metals	18.3%	44.6%	-19.7%	-15.5%	-3.5%	-4.6%	-33.3%	60.3%	3.9%	-26.9%	-1.4%
Paper & Related	98.1%	-9.6%	1.9%	22.2%	20.3%	-3.2%	-17.0%	11.0%	19.1%	-10.4%	9.8%
Retail	24.1%	30.5%	9.7%	23.8%	41.8%	7.5%	21.7%	3.8%	36.1%	15.9%	20.9%
Semiconductors	61.1%	19.1%	-12.0%	-5.3%	26.9%	27.5%	-2.2%	41.3%	47.4%	-14.7%	16.2%
Services	19.5%	25.2%	11.1%	16.8%	44.2%	5.7%	10.4%	4.9%	19.0%	1.7%	15.3%
Technology	67.3%	21.6%	3.3%	20.9%	23.6%	-1.4%	6.8%	5.5%	41.1%	-3.4%	16.9%
Telecommunications	5.3%	16.2%	5.6%	13.6%	9.5%	2.7%	-1.9%	29.5%	-3.8%	9.7%	8.3%
Transportation	17.2%	25.9%	2.8%	11.3%	44.1%	38.1%	-15.0%	23.3%	22.2%	-17.8%	13.5%
Utilities	3.5%	5.8%	19.2%	-0.2%	18.3%	23.8%	0.0%	15.9%	13.5%	5.5%	10.2%

Source: FactSet Research Systems Inc.

TABLE 3

By Sector - VALUE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
Banking	12.0%	7.8%	-31.8%	42.9%	37.8%	14.5%	3.5%	29.4%	24.2%	-17.1%	9.87%
Building	22.2%	-1.3%	-11.0%	45.3%	29.7%	10.2%	27.2%	24.2%	29.8%	-26.5%	12.90%
Capital Goods	23.8%	26.5%	0.6%	20.0%	46.0%	3.1%	-0.7%	25.2%	11.0%	-20.9%	11.99%
Chemicals	54.3%	34.7%	-4.9%	16.8%	32.9%	9.5%	-0.5%	14.5%	21.6%	-19.0%	14.20%
Consumer Durables	80.2%	26.4%	-15.9%	36.9%	29.4%	0.1%	-2.7%	5.0%	22.6%	-26.2%	12.13%
Consumer Staples	15.7%	13.2%	12.5%	9.2%	31.4%	15.0%	4.9%	5.8%	4.2%	-12.4%	9.44%
Energy	29.9%	18.8%	13.5%	4.1%	24.5%	-9.8%	-15.7%	23.6%	1.8%	-20.2%	5.64%
Financials	49.4%	17.9%	-30.1%	28.9%	34.4%	15.1%	-9.4%	17.1%	21.1%	-15.1%	10.35%
Health Care	23.1%	4.2%	16.0%	14.7%	35.7%	22.2%	6.7%	4.7%	19.4%	8.3%	15.12%
Insurance	17.4%	22.5%	-15.2%	23.2%	45.4%	12.4%	4.8%	18.9%	15.6%	-8.3%	12.50%
Metals	114.9%	8.3%	-30.5%	-1.2%	6.5%	-16.7%	-42.6%	76.5%	23.6%	-27.1%	2.61%
Paper & Related	23.7%	9.6%	-1.8%	36.7%	24.2%	-1.6%	8.0%	9.9%	26.6%	-27.6%	9.23%
Retail	52.6%	16.9%	5.4%	16.0%	24.9%	16.4%	5.8%	-0.1%	13.7%	1.6%	14.49%
Semiconductors	59.1%	12.4%	5.6%	2.0%	42.4%	41.8%	-0.3%	21.9%	36.7%	-2.1%	20.25%
Services	45.1%	21.5%	3.9%	27.2%	40.6%	13.0%	-0.4%	18.0%	17.2%	-2.6%	17.40%
Technology	53.5%	3.4%	-3.2%	8.4%	29.0%	19.2%	3.6%	17.0%	29.9%	2.8%	15.29%
Telecommunications	10.4%	20.1%	5.8%	17.3%	13.7%	2.7%	5.3%	21.4%	-0.5%	-9.3%	8.26%
Transportation	30.1%	25.6%	2.9%	3.5%	42.8%	25.2%	-17.5%	23.5%	23.8%	-0.7%	14.57%
Utilities	19.9%	9.3%	18.6%	4.2%	10.0%	31.2%	-7.8%	18.1%	10.9%	3.3%	11.30%

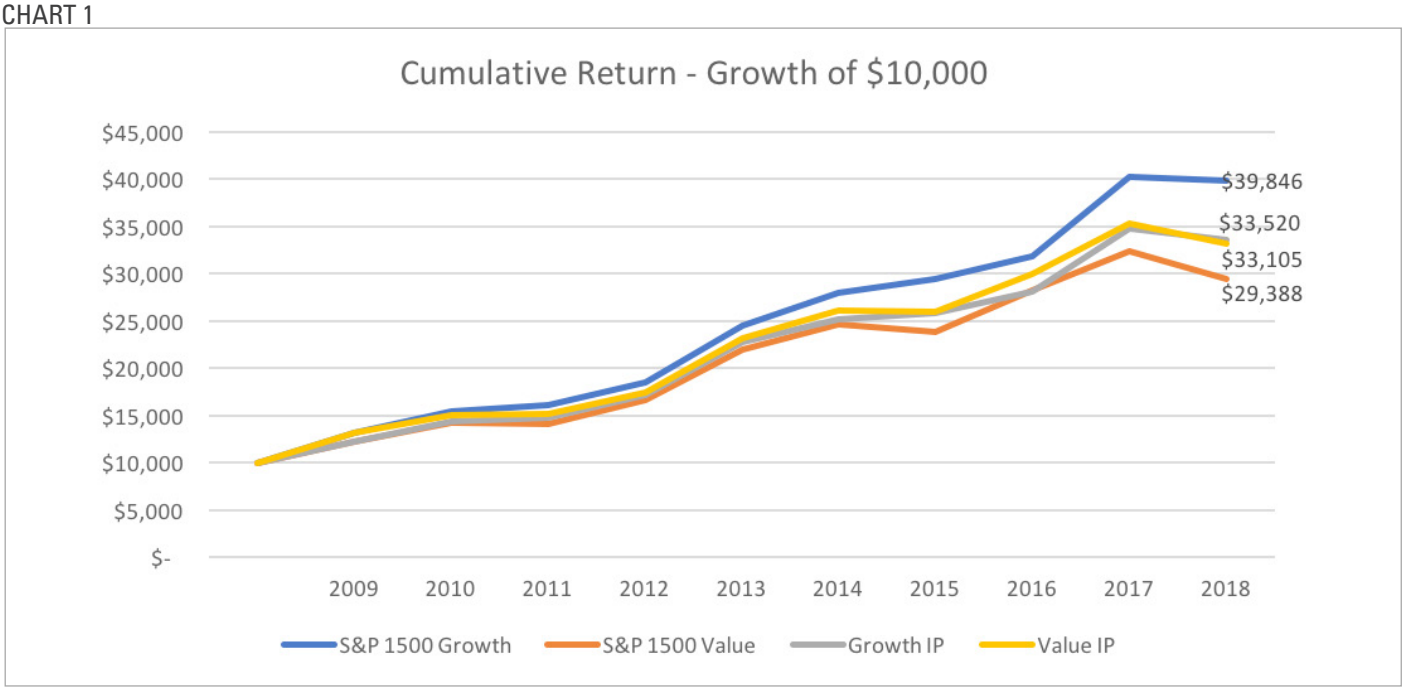
Source: FactSet Research Systems Inc.

If we delve deeper into sector performance over the ten-year time period and look at the Compound Annual Growth Rates (CAGRs) for each sector, we see that Technology again stands out as a top performer overall and is likely one driver of the S&P Growth Index's outperformance compared to the Value Index over time. But for as much of a headline Growth market we have been in over the last decade, Technology $Growth_{IP}$ outperforms Technology $Value_{IP}$ by less than 160 basis points. Clearly our methodology, which places approximately 50% of each sectors' market capitalization into the respective $Growth_{IP}$ and $Value_{IP}$ indices, limits the impact of a large, predominantly growth sector like Technology on the relative performances of the indices. Moreover, while Semiconductors were a likely driver of performance in the S&P 1500 Growth Index performance over the decade, when broken down using our framework the CAGR of the Semiconductor ValueIP actually outperformed Semiconductor GrowthIP by over 150 basis points annually over the time period!

Looking back at TABLE 1, we also took interest in the fact that the performance differential in most years between $Growth_{IP}$ and $Value_{IP}$ was often significantly less than the difference in the S&P 1500 Growth and Value Indices. The range between the two IP indices was less than the range between the S&P Indices in eight of the ten years, including each of the last four. The average differential was just 3.7% for the IP indices compared to over 6% for the S&P Indices. This has the effect of muting the difference in performance of growth and value, per our definitions, over a longer time frame.

The following chart demonstrates this point very well, in our opinion. When we graph the performance of the $Growth_{IP}$ and $Value_{IP}$ indices over the last decade (using the growth of $10,000) the result is rather striking. For reference, the ten-year CAGR of the S&P 1500 Growth Index of 14.8% outperforms the S&P 1500 Value Index by 340 bps for the period, resulting in an investment of $10,000 in the S&P 1500 Growth Index growing into a value of $39,846 compared to just $29,388 for the S&P 1500 Value Index. However, the $Growth_{IP}$ index CAGR of 12.9% is just twenty basis points higher than the $Value_{IP}$ return. That gives the $Growth_{IP}$ index an outperformance of just $415 over the ten-year time period. In fact, $Value_{IP}$ was ahead of $Growth_{IP}$ after the first nine years of the time period. The results are shown below.

CHART 1



Source: FactSet Research Systems Inc.

Summary

As shown in Chart 1, the data shows no distinctive difference between Growth and Value when these styles are redefined as $Growth_{IP}$ and $Value_{IP}$. This inconclusiveness, together with sector inconsistencies, call into question what style-based investing really means. We recognize that it might be suitable to equate style-based investing with bending towards specific sectors, however, if one's goal is to own the "growthiest"/"cheapest" *within* each sector, we have found that there has been no material difference in the last ten years, despite the headline call of Growth's advantage. This observation aligns with how Isthmus Partners approaches equity investing. That is, we ignore style labels and instead opt for building enduring portfolios which are anchored on high quality. Our constituents' retrospective/prospective growth trajectories span a wide spectrum, our valuations are based on the cash generating potential of these enterprises, and we aim to own portfolio companies at levels that allow us to earn a sufficient rate of return for the risk taken.

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[i] Based on GICS sectors (as of 12/31/18).

[ii] It is important to note that these securities potentially take growth or value labels that may differ from their labels in the S&P Indices, since, through disaggregation and reassembly, they are no longer viewed as Growth/Value within the context of the entire index, but rather they are characterized as Growth/Value within their respective sectors. They retain this potentially new label when re-aggregated into the $Growth_{IP}$ and $Value_{IP}$ Indices.