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KEY TOPICS COVERED

- The Gross Profitability Trap
- AFG Metric Review
- US Sector/Industry Trends
- Additional Metrics

“But this time, it’s different!” More foolish words are rarely spoken in the financial industry, but they always seem to find their way back into the stock market lexicon. A firm’s intrinsic value should always be a function of discounted future cash flows that incorporate a comprehensive understanding of profitability, growth, competition, and risk. Occasionally, alternative approaches can find favor in enough market participants’ stock selection to distort the foundational understanding of firm value.

History has proven that, at certain times, speculatively reckless and risk-seeking investment styles become so commonplace that they distort overall market returns. Disciplined investors with long-term investment horizons initially struggle as they lag broader market benchmarks as a new approach better explains recent performance. If these themes persist long enough, it is eventually amplified by momentum strategies or other trend-following investors. To be clear, there is always a place for objective speculation; new entrants can offer an enticing long-term vision of a revolutionary product or breakthrough while they are early stage businesses focused on R&D and growth, but numerous roadblocks and pitfalls are possible for these high-growth startups and significant due diligence is crucial. Investors who are good stewards of capital will balance long-term future growth and potential profitability against competition and risk to formulate a thesis around a sound estimate of intrinsic value.

When these new themes dominate long enough, an existential crisis for the disciplined manager develops. Is everything we know about investing wrong? Are these recent themes the “new normal”, and should we reposition our portfolios to align with these recent trends? Or do we have confidence that our research process is not the culprit and position our portfolio to exploit mispricing from a crowded trade as recent trends that distort firm value, understate competition, and misrepresent risk unwind. The tech bubble scenario of this is well-documented, as “new economy” language dominated the justification of absurd market prices, and it appears that a similar trend of justifying allocation towards risky, expensive investments has expanded over the last several years and crept into broader stock selection as well.

This write-up will attempt to understand recent market trends through the lens of Gross Profitability. It appears that enough investors now view Gross Profitability as a viable proxy to future firm profitability that it has temporarily, and likely in a very short-sighted manner, replaced a more robust approach to valuation in stock selection. Ironically this metric, which claims to be the “other side of value”, does not have a link to firm value at all and should not be used as a stock selection criteria on a stand-alone basis. As this variable has gained popularity over the last few years, AFG’s research has noted the dominance of growth over value, momentum over valuation, and market-cap weighted indices over equal-weighted alternatives, but it seems that these trends are all explained by the expanding application of Gross Profitability in stock selection since its introduction several years ago. Broader industry discussion has become sensationalized as “Value is Dead!”, but managers need to realize that it simply lays dormant as this misguided proxy for valuation encourages the reckless bidding up of select growth stocks. Make no mistake: the tech bubble’s application of a distorted valuation approach led to a sudden and painful snap back for trend-followers without a valuation discipline, so investors should exercise caution trading this theme today.

The Gross Profitability Trap – “The Other Side of Value” Traps

When portfolio managers screen for relative value using price multiples, it is assumed that they become susceptible to a “value trap” without a quality or momentum overlay. Can Gross Profitability suffer from a similar fallibility? Portfolio managers favoring stocks with high levels of Gross Profitability as a proxy for high future earnings are susceptible to a “Gross Profitability trap” without a valuation overlay. Examination of the current marketplace shows signs that a bias towards expensive stocks with high Gross Profits has distorted market prices on select individual securities by a significant level over the last several years, which could lead to large potential capital losses on a forward-looking basis for expensive high Gross Profitability firms as market prices correct for this misrepresentation of risky future earnings.

Executive Summary:

- Gross Profitability offers intriguing risk-adjusted characteristics as a quality metric useful in stock selection.
- Gross Profitability works best in tandem with a valuation metric over long-term time horizons, since its construction does not have an embedded valuation discipline on a stand-alone basis.
- Recent US trends highlight that a valuation overlay is likely disregarded by many market participants, and Gross Profitability could be the culprit behind excessive risk-taking in speculative investments since 2017, especially in health and technology sectors.
- Examination of high Gross Profitability firms with poor valuation characteristics highlights the recent significance and persistence of this bias, likely further fueled as price discovery characteristics of the market are muted by ongoing shift towards passive investment, as well as the limited float of earlier stage health/tech investments.
- Careful examination of this data should serve as a meaningful reminder on the inherent risks embedded into high profitability stocks with poor valuation characteristics and encourage market participants to establish a valuation discipline in tandem with this robust profitability screen.

Gross Profitability:

The Gross Profitability premium, defined by [Robert Novy-Marx](#) (2013, Journal of Financial Economics) simply as Revenue minus COGS divided by Total Assets, has found substantial following in the factor model, hedge fund, and quantitative investment landscape in the short time horizon since its original publication. Gross Profitability is assumed to be a strong predictor of a firm’s future earnings, and analysis of the variable over long-term time horizons certainly delivers attractive results.

Gross Profitability: Russell 3000 Performance – 9/98-6/19

Gross Profitability	R3000	F	D	C	B	A
Cumulative	359.0%	117.1%	494.8%	820.1%	925.7%	1094.1%
Annual	7.6%	3.8%	9.0%	11.3%	11.9%	12.7%
Spread	0.0%	-3.8%	1.4%	3.7%	4.3%	5.1%
Batting Average		43.8%	51.0%	51.4%	54.6%	56.6%
Avg/StDev (1M)	16.4%	8.0%	14.9%	18.9%	20.2%	20.7%
IR (12M)	0.0%	-12.0%	28.2%	48.8%	54.6%	59.3%
Beta	1.000	1.479	1.277	1.172	1.135	1.169
Sortino Ratio	23.9%	11.6%	22.6%	29.5%	31.7%	32.7%
Treynor Ratio	7.6%	2.6%	7.0%	9.6%	10.5%	10.9%
Jensen's Alpha	0.0%	-7.5%	-0.8%	2.4%	3.2%	3.8%
Turnover		74.4%	98.7%	100.0%	88.1%	53.2%

- **Batting Average:** Percentage of months each quintile outperforms the Russell 3000 benchmark
- **Avg/StDev:** Average monthly quintile returns divided by standard deviation of monthly quintile returns
- **IR:** Information Ratio, based on active return divided by tracking error to Russell 3000 on a rolling twelve month basis
- **Beta:** All-time covariance dividend by Russell 3000 variance using monthly returns
- **Sortino:** Average monthly quintile returns divided by standard deviation of negative returns (using minimum acceptable return = 0%)
- **Treynor Ratio:** Annual return divided by Beta
- **Jensen's Alpha:** Spread between annual return and Russell 3000 annual return multiplied by Beta (assumes risk-free rate = 0%).
- **Turnover:** Average position turnover on an annual basis

AFG Research Database: Russell 3000 Gross Profitability Sector-Ranked Quintiles from 9/30/98 to 6/30/19 (Average Returns), United States (Russell 3000 Stocks) | All Sectors

Reviewing this data in aggregate since 1998, top quintile stocks within each sector have outperformed their bottom quintile peers by almost 9.0% on an annualized basis alongside attractive risk-adjusted returns and modest turnover characteristics. These results are compelling, and it is clear why equity managers would include this robust metric in their stock selection criteria. It is important to note, however, that a stock with gross margins of 80% and asset turns of 1.25 will have a Gross Profitability measure of 100% (\$100 in Revenue - \$20 COGS / \$80 in Assets), and will likely screen well on this measure regardless of whether they trade at \$50/share or \$5,000/share. This *should* be a material detail in practice, otherwise a concentrated focus on this metric by a large number of investors would lead to rampant mispricing on speculation of future earnings completely disconnected from current market value.

Novy-Marx researched Gross Profitability in tandem with Book to Price ratios as a source of relative value, discovered that Gross Profitability is negatively correlated to Book to Price, and labeled this metric as the “other side of value”. In other words, Book to Price strategies exploit mispricing by selling expensive assets to purchase cheap assets, while profitability strategies sell unproductive assets to purchase productive assets. Novy-Marx sees profitability as another way to understand firm value in addition to Book to Price, but pointed towards the use of both approaches in tandem due to their negative correlation. Without a robust valuation discipline, Gross Profitability is best considered a quality metric; a higher level of Gross Profits is certainly a sign of high quality, including less likely financial distress and lower operating leverage concerns.

Gross Profitability and Book to Price

Annual		Book to Price					
		All	F	D	C	B	A
Gross Profitability	All		8.1%	8.4%	10.0%	11.4%	10.0%
	F	3.8%	0.6%	2.9%	5.0%	5.7%	2.6%
	D	9.0%	6.8%	6.2%	7.8%	11.0%	10.5%
	C	11.2%	7.7%	8.4%	11.1%	12.2%	16.2%
	B	11.9%	8.6%	10.0%	11.9%	13.9%	16.5%
	A	12.7%	11.1%	11.1%	13.3%	15.5%	14.9%

Average Count		Book to Price					
		All	F	D	C	B	A
Gross Profitability	All	2561	517	512	512	512	507
	F	517	68	66	82	114	187
	D	512	69	92	114	124	113
	C	512	80	114	120	112	86
	B	512	108	123	112	96	73
	A	507	192	117	84	66	48

The performance data to the left highlights the effectiveness of combining Gross Profitability with Book to Price, where the combination of top quintiles return 14.9% while the combination of bottom quintiles return only 0.6% per year. It is important to note that relative value multiples are far from ideal in formulating a comprehensive valuation thesis on a stock, and Book to Price also tends to be the worst performing relative value option. The relationship of these variables also have a really strong inversion: A-graded book to price stocks are more likely to be F-graded from a Gross Profitability perspective, and A-graded Gross Profitability firms are more likely to be F-graded book to price firms based on count analysis.

AFG Research Database: Russell 3000 Gross Profitability & Book to Price Sector-Ranked Quintiles 9/30/98 to 6/30/19 (Average Returns), United States (Russell 3000 Stocks) | All Sectors

Two additional observations are critical here. First, the performance of Book to Price on a stand-alone basis is underwhelming, where top quintile stocks only outperform bottom quintile stocks by 1.9% per year, compared to 8.9% spreads for Gross Profitability. We can certainly improve upon this research by using a more robust valuation metric in AFG’s Percent to Target – Current metric. Second, based on the widely-accepted basis of Novy-Marx’s research, it could be deemed rational for market participants to place outsized preference on Gross Profitability instead of Book to Price given the relative strength of each metric, but doing so could encourage overpaying for high Gross Profitability firms if an underlying valuation relationship is ignored.

Gross Profitability and AFG Intrinsic Value:

The Novy-Marx research clearly offers a compelling metric to consider in multifactor model development, but the use of Book to Price for the value input focuses on “value” as a style classification, which is not a meaningful proxy for valuation. AFG’s Economic Margin framework is built around a market-oriented model that focuses on profitability, growth, competition, and risk to articulate a comprehensive estimate of intrinsic value. Through AFG’s valuation lens, style classifications are less meaningful, since growth is simply an input into the estimate of a firm’s intrinsic value. Rebuilding Novy-Marx’s analysis to compare AFG’s Percent to Target – Current metric to Gross Profitability incorporates a much more robust valuation metric, which also creates a much more compelling multifactor model.

Annual		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		3.9%	7.8%	9.8%	13.2%	13.6%
	F	3.8%	-0.7%	3.8%	4.2%	10.5%	5.9%
	D	9.0%	3.4%	6.8%	9.9%	12.6%	11.8%
	C	11.2%	4.5%	9.1%	10.8%	13.8%	16.2%
	B	11.9%	6.7%	9.5%	11.8%	14.0%	14.7%
	A	12.7%	10.8%	9.0%	10.0%	14.1%	17.8%

Average Count		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All	2561	517	512	512	512	507
	F	517	171	86	73	82	104
	D	512	97	107	104	101	104
	C	512	79	110	119	113	91
	B	512	74	107	114	117	100
	A	507	96	103	103	99	107

Top Quintile and Bottom Quintile spreads for AFG’s approach to valuation improve to 9.7%, compared to 1.9% for book to price. The top quintile interaction for each metric improves to 17.8%, outperforming the combination of bottom quintile stocks by nearly 18.5%. These AA/FF quintile spreads improve by more than 400 bps per year over the Book to Price version above. Over long-term time horizons, the combination of Gross Profitability with a well-constructed valuation metric provides compelling evidence for stock selection application. The relationship between these two metrics is also much more normal, as counts across each of the crossed quintiles are fairly constant compared to the clustering observed in the Book to Price dataset.

AFG Research Database: Russell 3000 Gross Profitability & Percent to Target – Current Sector-Ranked Quintiles 9/30/98 to 6/30/19 (Average Returns), United States (Russell 3000 Stocks) | All Sectors

Gross Profitability & Intrinsic Value Regimes

Closer examination of the interaction of Gross Profitability and Percent to Target over time yields interesting results. This write-up will focus on the rise and collapse of the tech bubble, the long-term “normal” through the end of 2016, as well as recent trends since the start of 2017. These themes are important to understand in both broad universe and large cap analysis to ensure too much emphasis is not placed on small-cap/micro-cap trends, and additional insight is found by examining performance in technology and health care sectors where seasons of irrational speculation can abnormally influence returns in a much more significant manner. AFG has live production data and Russell constituents as of 9/30/98; we can use this start date to analyze performance through the rise of the tech bubble as of the end of February 2000.

Rise of Tech Bubble: September 30, 1998 to February 29, 2000

Russell 3000 Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		55.9%	35.4%	20.8%	20.4%	17.8%
	F	34.3%	81.0%	30.3%	10.1%	9.2%	-2.4%
	D	27.9%	44.0%	33.2%	23.5%	19.4%	20.0%
	C	27.7%	46.5%	37.3%	25.8%	19.4%	15.8%
	B	28.3%	33.4%	41.4%	21.4%	26.3%	17.4%
	A	30.5%	48.0%	30.6%	20.5%	22.0%	35.7%

Russell 1000 Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		48.1%	28.1%	18.6%	15.3%	15.9%
	F	23.6%	65.1%	3.3%	21.6%	-1.9%	-1.5%
	D	24.1%	49.6%	33.5%	13.8%	13.0%	11.8%
	C	25.2%	59.8%	20.7%	20.7%	22.7%	12.1%
	B	24.6%	27.1%	31.3%	23.4%	14.9%	25.9%
	A	28.0%	22.9%	49.1%	15.4%	21.5%	28.9%

R3 Tech/Health Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		196.5%	146.8%	88.0%	100.4%	82.6%
	F	160.6%	199.2%	102.5%	112.1%	126.7%	107.1%
	D	139.2%	201.8%	150.0%	118.2%	99.9%	122.7%
	C	110.5%	191.5%	169.6%	93.2%	109.7%	33.1%
	B	97.4%	99.5%	139.7%	77.8%	91.3%	49.2%
	A	99.9%	192.4%	157.9%	42.6%	69.2%	110.4%

R1 Tech/Health Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		182.5%	136.4%	91.7%	76.9%	85.7%
	F	98.7%	175.2%	25.0%	96.7%	32.3%	27.1%
	D	118.6%	207.1%	158.3%	85.6%	71.4%	70.2%
	C	140.6%	184.6%	229.4%	160.1%	91.3%	58.0%
	B	99.4%	91.2%	108.5%	47.0%	88.9%	141.9%
	A	109.0%	209.6%	215.3%	52.5%	69.9%	93.4%

AFG Research Database: Gross Profitability & Percent to Target Sector-Ranked Quintiles from 9/30/98 to 2/29/00 (Average Returns)

Over this brief window before the collapse of the tech bubble in early March 2000, it is clear that Gross Profitability was not a relevant theme in broad market returns. A focus on technology and health care stocks actually highlights a preference towards low Gross Profitability firms, which likely reflects investor preference towards hardware and equipment instead of software, human capital and R&D that better defines recent high flyers in these sectors. The tech bubble behavioral issues are well-documented, and it is clear that high levels of Gross Profitability did not help explain the broad market trends during the late 90s as much as a preference towards stocks with limited or negative cash flow today but unmeasurable future opportunities through the lens of the “new economy”. What in early stages may have indeed been rational in that regard was quickly replaced with reckless investing styles that ignored a disciplined approach rooted in intrinsic value.

Tech Bubble Collapse: February 29, 2000 to December 31, 2002

Russell 3000 Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		-33.7%	-16.6%	-3.8%	12.5%	12.2%
	F	-27.0%	-45.9%	-26.2%	-15.3%	9.3%	-7.6%
	D	-10.0%	-34.0%	-20.1%	-7.2%	11.2%	5.8%
	C	-0.8%	-28.6%	-11.7%	-0.7%	13.7%	19.7%
	B	1.3%	-19.5%	-12.3%	0.1%	13.3%	17.2%
	A	2.5%	-13.5%	-12.2%	-0.5%	13.6%	21.2%

Russell 1000 Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		-29.9%	-10.4%	-2.3%	9.7%	6.7%
	F	-24.7%	-46.2%	-13.5%	-11.6%	10.9%	-5.0%
	D	-2.6%	-21.0%	-5.9%	-6.8%	12.0%	9.6%
	C	-2.4%	-23.5%	-14.8%	1.7%	12.5%	6.5%
	B	-0.2%	-15.3%	-8.6%	0.0%	7.0%	8.9%
	A	1.0%	-8.7%	-8.4%	0.7%	6.2%	13.2%

R3 Tech/Health Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		-60.1%	-48.4%	-31.3%	-13.3%	-3.4%
	F	-55.8%	-63.8%	-52.9%	-50.8%	-33.9%	-49.6%
	D	-38.8%	-60.5%	-52.0%	-36.9%	-20.0%	-8.1%
	C	-26.8%	-54.2%	-50.3%	-28.3%	-12.1%	10.1%
	B	-20.7%	-56.6%	-39.1%	-20.8%	-8.0%	-0.7%
	A	-22.7%	-59.4%	-48.0%	-27.1%	-7.3%	2.1%

R1 Tech/Health Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		-57.5%	-38.0%	-28.4%	-14.2%	-8.7%
	F	-52.7%	-64.6%	-39.3%	-60.8%	-6.7%	-25.6%
	D	-26.6%	-49.3%	-33.2%	-41.9%	1.1%	-1.4%
	C	-29.7%	-59.8%	-43.7%	-26.0%	-9.4%	-16.2%
	B	-17.0%	-34.6%	-33.5%	-13.2%	-7.9%	-8.4%
	A	-24.7%	-54.4%	-34.7%	-21.8%	-33.0%	-2.7%

AFG Research Database: Gross Profitability & Percent to Target Sector-Ranked Quintiles from 2/29/00 to 12/31/02 (Average Returns)

This roughly three-year horizon following the crash of the tech bubble provides a cautionary tale of overly-speculative investor behavior distorting market prices and the ensuing impact on market performance as themes stabilize towards long-term normal levels. Stocks with poor valuation characteristics continued to become increasingly expensive over the rise of the tech bubble, and their eventual decline was significant, especially in health and technology sectors. Stocks with attractive valuation characteristics in the broad market, on the other hand, actually appreciated over the course of the tech bubble collapse, while attractively-valued health and technology stocks sold off much less sharply than their expensive peers. This example is extreme, but it is important to acknowledge that a short-term distortion or ignorance towards valuation is typically followed by significant performance reversals as rational investment resumes at some point. When this occurs, trend followers will experience significant underperformance in their portfolios.

Long-Term “Normal”: December 31, 2002 to December 31, 2016

Russell 3000 Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		8.2%	10.8%	12.2%	13.9%	15.1%
	F	8.3%	4.8%	8.2%	8.4%	11.3%	9.6%
	D	12.1%	8.6%	11.0%	13.1%	13.4%	13.8%
	C	12.8%	8.7%	11.5%	11.7%	14.0%	18.0%
	B	13.5%	10.6%	11.3%	14.1%	14.7%	16.4%
	A	13.5%	10.9%	11.3%	11.9%	15.3%	17.4%

Russell 1000 Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		11.5%	10.8%	11.7%	12.4%	14.2%
	F	10.3%	9.0%	10.3%	8.0%	10.0%	12.6%
	D	12.9%	12.9%	13.2%	11.1%	11.9%	14.8%
	C	12.6%	13.1%	10.9%	13.4%	10.9%	14.9%
	B	12.4%	11.5%	9.7%	12.1%	13.8%	14.2%
	A	12.5%	12.1%	9.9%	13.2%	14.3%	12.6%

R3 Tech/Health Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		10.4%	11.2%	13.4%	16.6%	17.6%
	F	9.5%	6.2%	6.7%	8.3%	13.3%	13.9%
	D	13.6%	8.7%	9.2%	14.6%	16.4%	15.8%
	C	14.2%	8.2%	12.1%	11.9%	18.1%	18.0%
	B	16.5%	14.4%	12.7%	16.9%	16.5%	20.7%
	A	15.6%	13.6%	14.2%	13.6%	16.3%	17.2%

R1 Tech/Health Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		11.6%	13.4%	13.0%	15.4%	15.4%
	F	10.7%	5.2%	12.1%	5.4%	13.3%	14.0%
	D	15.8%	11.9%	18.3%	14.7%	17.1%	18.2%
	C	14.3%	17.9%	12.8%	11.4%	12.2%	13.4%
	B	13.7%	5.9%	9.0%	14.5%	16.1%	15.6%
	A	14.5%	16.1%	12.6%	14.1%	18.4%	12.8%

AFG Research Database: Gross Profitability & Percent to Target Sector-Ranked Quintiles from 12/31/02 to 12/31/16 (Average Returns)

Long-term, the combination of Gross Profitability and AFG’s Percent to Target – Current metric has performed extraordinarily well in the Russell 3000, with 12.6% annualized spreads between the AA and FF baskets from the recovery following the tech collapse through the end of 2016. Over this longer-term analysis, both Percent to Target – Current and Gross Profitability deliver robust, monotonic returns on a stand-alone basis in the Russell 3000 universe. These returns are muted in Russell 1000 analysis, where Gross Profitability appears best suited to provide insights as an exclusionary metric on the lowest quintile, while the remaining four quintiles deliver similar levels of performance to each other. AFG’s intrinsic value estimates, on the other hand, continued to deliver robust returns in the large cap space over this much longer time horizon.

Setting the Gross Profitability Trap: December 31, 2016 to June 30, 2019

Russell 3000 Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		9.8%	8.7%	7.5%	6.6%	4.7%
	F	5.6%	4.0%	6.3%	2.0%	8.1%	6.8%
	D	5.8%	8.0%	5.3%	6.5%	6.0%	3.5%
	C	8.2%	6.5%	7.6%	11.7%	10.0%	3.4%
	B	6.5%	5.4%	11.5%	7.9%	4.5%	1.5%
	A	11.3%	23.8%	11.8%	6.7%	4.3%	7.3%

Russell 1000 Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		14.1%	13.7%	11.4%	8.9%	6.7%
	F	9.1%	10.1%	12.3%	8.3%	8.4%	7.9%
	D	9.0%	8.4%	8.2%	10.4%	10.1%	6.5%
	C	11.0%	10.4%	12.5%	13.5%	8.4%	7.7%
	B	11.0%	15.9%	15.0%	14.2%	4.1%	2.6%
	A	15.1%	22.9%	18.9%	10.7%	12.7%	7.7%

R3 Tech/Health Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		21.2%	20.3%	18.9%	15.3%	9.2%
	F	9.5%	-2.6%	13.5%	11.9%	13.2%	12.8%
	D	12.3%	21.8%	13.2%	17.4%	13.9%	3.5%
	C	18.8%	26.8%	18.2%	26.1%	15.3%	6.8%
	B	19.3%	21.5%	21.6%	20.3%	12.6%	17.8%
	A	25.6%	40.0%	28.4%	13.1%	25.0%	7.3%

R1 Tech/Health Annual Returns		Percent to Target - Current					
		All	F	D	C	B	A
Gross Profitability	All		29.3%	27.2%	23.6%	18.1%	13.0%
	F	16.7%	11.0%	22.5%	19.5%	17.5%	14.9%
	D	16.8%	17.5%	20.2%	18.4%	21.1%	5.2%
	C	21.8%	21.3%	29.0%	25.7%	13.9%	19.7%
	B	26.0%	41.6%	23.2%	32.6%	15.4%	8.7%
	A	30.5%	38.1%	40.6%	29.7%	18.6%	17.6%

AFG Research Database: Gross Profitability & Percent to Target Sector-Ranked Quintiles from 12/31/16 to 6/30/19 (Average Returns)

The last several years share more similarities with the late 90s tech bubble than any other period over the last two decades. Since the start of 2017, we have observed a similar (but much milder) aversion to valuation that was noted during the tech bubble, but this time we see a much stronger preference towards high Gross Profitability firms. It is clear that health and technology stocks are a significant driver of this recent Gross Profitability appetite, where early stage growth companies are likely to have minimal COGS and small tangible asset bases while they are still in the midst of heavy R&D investment. Broader market spreads of Gross Profitability quintiles are roughly 6% between A and F-graded baskets, and these spreads increase to 16% in the Russell 3000 and 14% in the Russell 1000 when we focus solely on technology and health care stocks.

When adding a disciplined valuation overlay to Gross Profits, it is shocking that the basket of highest quintile Gross Profitability firms (A-graded) with bottom quintile valuation characteristics (F-graded) have appreciated by nearly 40% per year in both the Russell 1000 and Russell 3000 technology and health care sectors since 2017. Bidding up expensive stocks in this manner is reckless, and it is the sign of a crowded trade around this Gross Profitability measure completely disconnected from any rational valuation-based discipline. It is crucial for investment managers to fully understand this recent distortion in investor preference. Gross Profitability may certainly be a proxy for future earnings and future earnings are a proxy for future cash flows, which is a material input into a comprehensive and reliable intrinsic value estimate, but “proxying” a proxy leaves much to be desired as a comprehensive investment thesis. It appears that rapid adoption of this metric by active managers has unwittingly led to the encouragement or justification of risky behavior, and market performance observed following the collapse of the tech bubble should provide encouragement to make sure a valuation discipline is embedded in your investment process on a forward-looking basis.

Based on the previous regime analysis, it is clear that investors have become much more willing to assume excessive risk in the last several years compared to any point since the collapse of the tech bubble. At first, this shift may have been based on rational insight. Tax reform at the end of 2017 would lead to significant cash repatriation by large multinational corporations, creating opportunities to acquire young firms with proprietary intellectual capital but limited revenue streams. Interest rates have been historically low, providing significant time frames for companies to grow before eventually becoming profitable and returning cash to investors. At the same time, the performance of Gross Profitability as a stock selection tool offers robust risk-adjusted returns, so its application in an investment process is certainly reasonable. While recent regime analysis highlights that screening for high Gross Profits increasingly ignored valuation principles, this was likely further amplified by momentum and trend-following strategies at the same time price discovery was muted by the rise of passive investing. Combined with high levels of restricted shares and low float, it is certainly possible that it only took a few market participants to crowd this trade and distort market prices for small-cap stocks in the health and technology space.

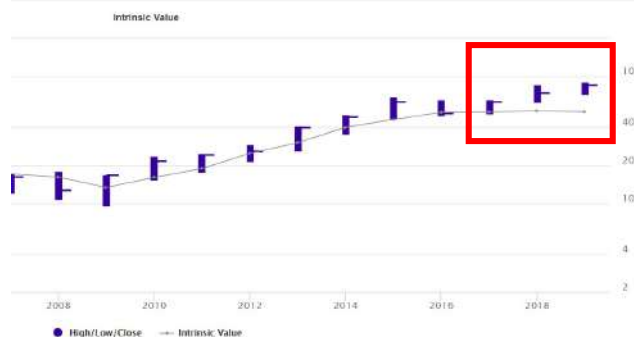
Current market prices achieved for many of these highly speculative long-term “disrupters” can begin to make a little more sense through this lens, especially the 40+% annualized returns for health and technology stocks in the Russell 3000 that offered high Gross Profit levels yet poor valuation characteristics. But it is also clear that this trend has not been limited to small cap health and technology, so we can further understand the persistence of this theme by analyzing a much larger cap stock that was not likely an M&A target outside of the health and technology sectors.

Nike Inc. (NKE) – High Gross Profitability & Recent Market Price Impact

NKE delivered Gross Profits of 14.5B on its most recent annual report at the end of 2016 (labeled 2015 using AFG’s Fiscal Year convention, based on May 2016 fiscal year end). Scaling as a percentage of total assets, which were 21.4B, Gross Profitability measured 67.6%, which fell in the 80th percentile of the Consumer Discretionary sector. NKE is capital light, with most of its corporate assets focused on marketing, and tends to rely on low cost manufacturing outside of the United States, and its sector rank has hovered around this 80th-percentile level for the last several years.

Nike Inc. (NKE) | Comp Grade: C | Inv Grade: A | Ind: Footwear Sec: Consumer Non Durable | Mkt Cap Mil: \$ 134,082.50 USD

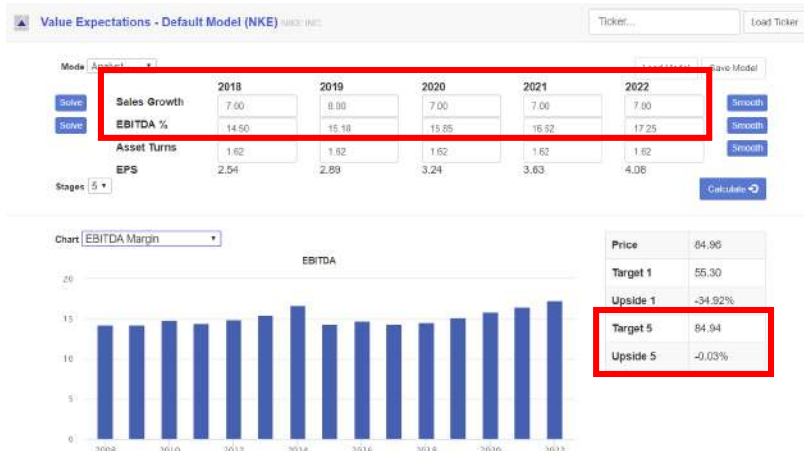
	2014	2015	2016	2017
Operating Expenses & Incomes				
Sales	30,696	32,464	34,254	36,397
COGS ex DDA	15,665	17,329	18,661	19,667
DD&A Expense	649	662	716	774
SG&A Expense	9,892	10,469	10,563	11,511
Operating Income	4,490	4,004	4,314	4,445
Assets - Total	21,600	21,396	23,259	22,536



EquityInsights.com – Nike Inc. (NKE) Income Statement, Balance Sheet, and Intrinsic Value Chart, July 2019

Nike closed 2016 with a \$50.83 market price. Since then, very little has changed operationally outside of realizing a lower corporate tax rate following US tax reform, which is already reflected in recent intrinsic value estimates. Operating income growth and asset growth since 2015 have been mild, and AFG’s default estimate of intrinsic value has been stable around \$53/share. AFG’s default model for Nike also has a significant degree of historical accuracy. Despite this, Nike had appreciated nearly 70% by early July 2019 despite limited operational changes. This divergence from intrinsic value was gradual: at the start of 2017, NKE appeared mildly attractive at the 61st percentile level in the Consumer Discretionary sector. Since then, we have seen NKE’s relationship between intrinsic value and market prices deteriorate – by the end of 2017, the sector rank of its Percent to Target metric had fallen to the 39th percentile; by the end of 2018, it had fallen to the 30th percentile, and by the end of June, it has fallen to the 25th percentile in the Russell 3000 Consumer Discretionary sector.

At its current price, the market implies NKE can continue growing sales at 7-8%/year through 2022 and expand EBITDA Margins by nearly 3% over the next five years to 17.25%. This is unlikely, as EBITDA Margins have averaged 14.7% for NKE since 2000, with an all-time high level of 16.7% over the last 18 years.



EquityInsights.com – Nike Inc. (NKE) Value Expectations, Implied Market Expectations, July 3rd 2019

Investor preference towards Gross Profitability untethered to valuation can influence market prices in several material ways. Growth managers can use what appears to be sound quantitative reasoning to apply this metric to their stock selection process and justify bidding up already expensive stocks. The following table highlights Russell 3000 health/tech stocks with at least \$1B market cap on 12/31/16 with top half Gross Profitability ranks and poor intrinsic value sector ranks that further appreciated at least 100% through June 2019. At this point, the revenue growth and EBITDA Margin expansion required to justify market prices for most of these stocks are absurd. These are significant Gross Profitability traps, since a mild shift in this market theme by a few larger active managers could put significant downward pressure on their market prices. At the same time, liquidity could disappear and impact broader equity markets similar to the hedge fund deleveraging event in 2007, since a large number of growth funds primarily focus on these types of investments in their equity allocation.

Significant Gross Profitability Traps: Expensive Health and Technology Stocks, 12/31/2016

Ticker Name	Sector	Mkt Cap	%Tgt SecRank	GrPft SecRank	Total Return	
VRTX	Vertex Pharmaceuticals	Health	18272	34	66	149%
IDXX	Idexx Laboratories	Health	10520	41	89	135%
VEEV	Veeva Systems	Health	5567	31	67	298%
DXCM	Dexcom	Health	5045	20	98	151%
ABMD	Abiomed	Health	4883	27	91	131%
PODD	Insulet Corp	Health	2164	19	85	217%
HAE	Haemonetics Corp	Health	2072	46	55	199%
PEN	Penumbra	Health	2019	24	81	151%
NKTR	Nektar Therapeutics	Health	1691	1	68	190%
AMED	Amedisys	Health	1430	46	95	185%
FGEN	Fibrogen	Health	1350	35	67	111%
ARRY	Array Biopharma	Health	1263	1	93	427%
GKOS	Glaukos Corp	Health	1142	34	84	120%
RGEN	Repligen Corp	Health	1042	34	58	179%
QDEL	Quidel Corp	Health	699	32	51	177%
ENTA	Enanta Pharmaceuticals	Health	638	47	55	152%
BEAT	Biotelemetry	Health	631	44	99	115%
ADBE	Adobe	Tech	51169	28	58	186%
CRM	Salesforce.com	Tech	47696	13	68	122%
INTU	Intuit	Tech	29553	31	99	134%
ADSK	Autodesk	Tech	16471	9	66	120%
MSI	Motorola Solutions	Tech	13768	38	53	111%

Ticker Name	Sector	Mkt Cap	%Tgt SecRank	GrPft SecRank	Total Return	
RHT	Red Hat	Tech	12516	26	73	169%
NOW	Servicenow	Tech	12341	11	64	269%
AMD	Advanced Micro Devices	Tech	10501	22	59	168%
SPLK	Splunk	Tech	6935	1	62	146%
ANET	Arista Networks	Tech	6787	41	80	168%
FTNT	Fortinet	Tech	5226	18	71	155%
TEAM	Atlassian Corp Plc	Tech	4977	22	68	443%
SQ	Square	Tech	4788	6	72	432%
EPAM	Epam Systems	Tech	3281	47	74	169%
DATA	Tableau Software	Tech	3207	18	88	294%
ZEN	Zendesk	Tech	2012	8	56	320%
HUBS	Hubspot	Tech	1674	7	91	263%
RNG	Ringcentral	Tech	1516	12	100	458%
NEWR	New Relic	Tech	1468	8	82	206%
GLOB	Globant Sa	Tech	1151	34	70	203%
QLYS	Qualys	Tech	1129	30	71	175%
CALD	Callidus Software	Tech	1053	16	76	114%
APPF	Appfolio	Tech	804	13	68	329%
FIVN	Five9	Tech	752	9	95	261%
VRNS	Varonis Systems	Tech	715	12	95	131%
WK	Workiva	Tech	563	1	97	326%
RPD	Rapid7	Tech	517	1	57	375%

AFG Research Database, Russell 3000 Health/Tech Stocks, Expensive High Gross Profitability, Total Return >= 100%, 12/31/16 to 6/30/19, Market Cap >= \$500M on 12/31/16 (Russell 3000 Sector Ranks)

Mild Gross Profitability Traps: Recent Valuation Deterioration Despite High Accuracy

Deteriorating Valuation/High Accuracy			12/31/2016 Data				6/30/2019 Data			
Ticker Name	Sector	Mkt Cap	Gross Profit	GP Sector Rank	%Tgt Sector Rank	%Tgt Acc'y	%Tgt Sector Rank	%Tgt SecRnk Delta	Total Return	
ECL	Ecolab Inc	Materials	34181	34.3%	86	90	94	28	-62	73.2%
HEI	Heico Corp	Industrials	5191	27.5%	56	79	92	27	-52	240.2%
VFC	Vf Corp	Discretionary	22070	62.0%	74	64	100	14	-50	85.5%
BFB	Brown-Forman Corp	Staples	17357	49.8%	68	53	92	14	-39	62.2%
CPRT	Copart Inc	Industrials	6102	33.0%	68	72	98	34	-38	169.8%
LOPE	Grand Canyon Education	Discretionary	2766	49.9%	61	76	90	38	-38	100.2%
SNPS	Synopsys Inc	Technology	8915	35.3%	60	77	94	41	-36	118.6%
NKE	Nike Inc	Discretionary	84784	67.6%	80	61	100	25	-36	70.2%
DG	Dollar General Corp	Discretionary	20463	56.0%	67	80	73	48	-32	87.5%
FE	Firstenergy Corp	Utilities	13185	14.0%	63	53	91	21	-32	53.8%
IEX	Ilex Corp	Industrials	6871	32.2%	66	57	97	27	-30	97.4%
EL	Estee Lauder Companies	Staples	28130	98.5%	94	61	70	32	-29	146.7%
AVY	Avery Dennison Corp	Materials	6263	39.8%	93	53	83	24	-29	72.9%
AAN	Aaron'S Inc	Discretionary	2285	56.9%	69	65	99	37	-28	93.3%
SSD	Simpson Manufacturing Co	Industrials	2080	37.3%	76	59	80	31	-28	57.9%
AEP	American Electric Power	Utilities	30958	13.5%	58	79	96	51	-28	52.6%
COST	Costco Wholesale Corp	Staples	70052	47.7%	65	72	100	47	-25	76.5%
AWK	American Water Works	Utilities	13090	15.8%	82	61	97	36	-25	68.6%
PFGC	Performance Food Group	Staples	2398	58.2%	76	85	99	60	-25	66.8%
TDY	Teledyne Technologies Inc	Industrials	4298	32.0%	65	69	93	45	-24	122.7%
ROST	Ross Stores Inc	Discretionary	25854	69.1%	81	59	94	35	-24	55.0%
HFC	Hollyfrontier Corp	Energy	5783	27.5%	96	73	71	50	-23	52.9%
LII	Lennox International Inc	Industrials	6593	58.2%	88	53	81	32	-21	84.5%
ODFL	Old Dominion Freight Line	Industrials	7084	99.5%	99	68	100	47	-21	75.7%
IPGP	Ipg Photonics Corp	Technology	5244	33.8%	57	78	98	57	-21	56.3%
FICO	Fair Isaac Corp	Technology	3688	49.3%	82	68	90	50	-18	163.4%
ILMN	Illumina Inc	Health Care	18809	42.0%	75	62	78	46	-16	187.5%
AMZN	Amazon.com	Discretionary	356188	53.8%	64	56	90	41	-15	152.5%
BBY	Best Buy Co	Discretionary	13356	63.1%	77	67	83	55	-12	74.5%

AFG Research Database, Deteriorating Valuation Sector Rank/High Accuracy (> 70) Stock Performance, 12/31/16 to 6/30/19, Market Cap on 12/31/16 >= \$2B (R3000 Sector Ranks)

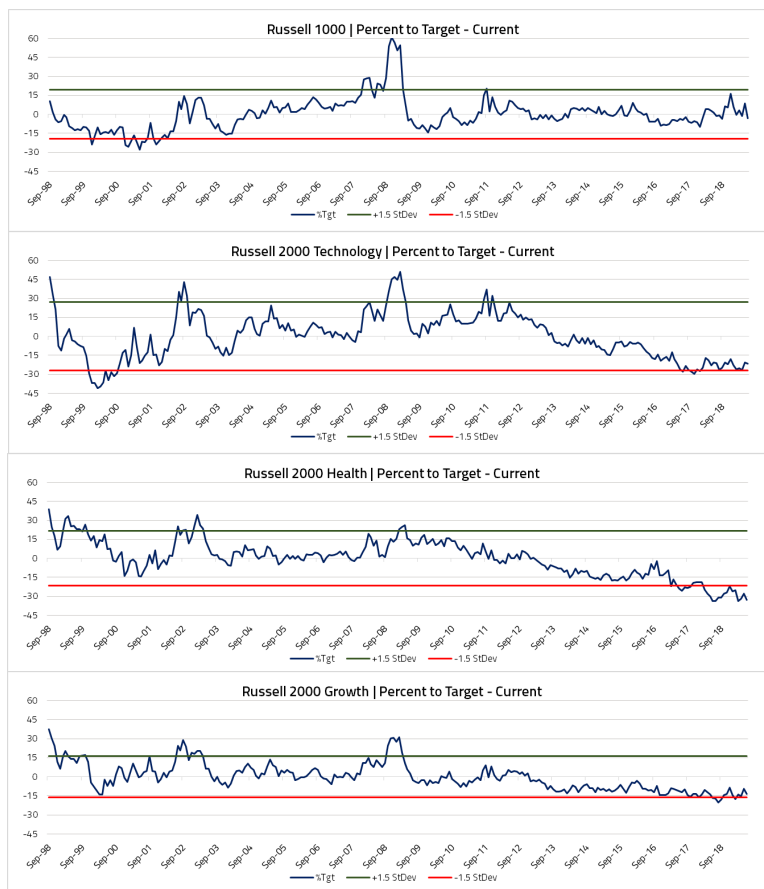
The second market distortion relates to the bidding up of market prices of attractively valued, high accuracy stocks, similar to the previous Nike example. Despite long-term track records of high accuracy, valuation has deteriorated for these stocks as investors began to support higher market prices based on attractive levels of Gross Profitability. The following table is ranked by the decline in Percent to Target Sector Rank data since the end of 2016. These are milder Gross Profitability traps that have performed well over the last several years due to their alignment with this Gross Profit preference, but would likely lag broader markets as investors revert towards a more robust definition of firm value.

Gross Profitability: Conclusion

The adoption of Gross Profitability as a stock selection tool since its initial publication in 2013 is a fascinating case study, due to the rapid material shift in investor preference that it has inspired over the last several years. As investors perform further due diligence on this metric, it should become more widely adopted that a valuation overlay is critical to ensure long-term strategy success. In the meantime, however, early application with minimal valuation influence has likely encouraged risky investor behavior that echoes themes of the tech bubble, albeit at a slower pace with milder returns and generally isolated to stocks that screen well on a specific attribute.

Summary:

- Current shareholders of expensive, high Gross Profitability stocks should consider realizing gains before these stocks lag the market on a forward-looking basis.
- Instead of chasing performance, managers should identify attractively-valued stocks that also screen well on a Gross Profitability basis, especially in the Technology and Health Care sectors, to better align with current investor preference, while also focusing on process-driven performance goals rooted in valuation.
- This biased misrepresentation of firm value using “future earnings potential” could persist indefinitely, since changes in irrational behavior are impossible to forecast, but rising interest rates could impact the extremely long time horizons granted to early-stage growth companies.
- Unlike the tech bubble, the distortion at this point is isolated to a relatively small universe of stocks, and its aggregate impact appears to be most influential in the smaller cap technology, health care, and growth universes, based on the Russell 2000 Percent to Target median charts to the right. On a large cap basis, we observe median Percent to Target levels still reflect “normal” valuation levels relative to long-term averages in the Russell 1000.
- To further assist with navigating this trend, the tables below provide a short list of health care and technology stocks that provide attractive characteristics from AFG’s Percent to Target and Gross Profitability lenses.



AFG Research Database, Percent to Target Median Levels, 6/30/19

Ticker	Name	Sector	Market Cap	%Tgt SecRnk	Gross Profit SecRnk	AFG Company Grade
JNJ	Johnson & Johnson	Health	371869	86	67	A
MRK	Merck & Co.	Health	220878	86	71	A
LLY	Eli Lilly And Company	Health	110869	80	76	A
ABBV	Abbvie Inc	Health	109730	96	80	A
BMJ	Bristol-Myers Squibb	Health	76369	92	81	A
CELG	Celgene Corporation	Health	66167	97	76	A
BSX	Boston Scientific	Health	59364	79	61	B
ZTS	Zoetis Inc	Health	54892	73	67	A
HCA	Hca Healthcare Inc	Health	46426	88	97	A
BIIB	Biogen Inc	Health	46139	98	82	A
EW	Edwards Lifesciences	Health	38479	74	88	A
REGN	Regeneron Pharmaceuticals	Health	34577	91	88	A
CERN	Cerner Corporation	Health	24360	83	92	A
ALGN	Align Technology	Health	21672	64	93	B
CNC	Centene Corporation	Health	21302	82	65	A
MTD	Mettler-Toledo Intl	Health	21165	89	92	A
INCY	Incyte Corp.	Health	18219	66	93	B
WAT	Waters Corporation	Health	15234	71	71	B
VAR	Varian Medical Systems	Health	12749	65	73	B
UHS	Universal Health Services	Health	11718	87	96	A
HSIC	Henry Schein	Health	10261	79	78	B
MOH	Molina Healthcare	Health	8874	94	82	A
HRC	Hill-Rom Holdings	Health	6996	80	60	A

Ticker	Name	Sector	Market Cap	%Tgt SecRnk	Gross Profit SecRnk	AFG Company Grade
EHC	Encompass Health	Health	6277	87	94	A
CHE	Chemed Corporation	Health	5782	71	88	B
ICUI	ICU Medical	Health	5098	68	68	B
PINC	Premier Inc	Health	4917	96	66	A
GMED	Globus Medical	Health	4025	73	76	B
MA	Mastercard	Tech	277064	97	90	A
IBM	Intl Business Machines	Tech	124325	82	69	A
ACN	Accenture Plc	Tech	120433	81	85	A
TXN	Texas Instruments	Tech	108957	72	90	B
AMAT	Applied Materials	Tech	41802	74	77	B
LRCX	Lam Research Corp	Tech	28057	84	72	A
KLAC	Kla-Tencor Corp	Tech	19370	88	80	B
CDW	Cdw Corp	Tech	16492	99	62	A
NTAP	Netapp Incorporation	Tech	14863	61	78	B
CTXS	Citrix Systems	Tech	13096	71	83	A
ZBRA	Zebra Technologies	Tech	11422	86	76	A
BAH	Booz Allen Hamilton	Tech	9343	73	98	A
UBNT	Ubiquiti Networks	Tech	9289	90	76	A
AZPN	Aspen Technology	Tech	8766	91	99	A
FFIV	F5 Networks	Tech	8738	84	95	A
DLB	Dolby Laboratories	Tech	6605	65	65	B
CDK	Cdk Global Inc	Tech	6125	89	70	B
JCOM	J2 Global Inc	Tech	4222	97	65	A

AFG Research Database, Russell 3000 Health/Tech stocks, Percent to Target & Gross Profitability Sector Ranks >= 60%, AFG Company Grade = A/B, Market Cap > \$4B, 7/3/19

	AFG Company Grade 2019 Q2	Returns						Return Spreads					Counts					
		Uni	F	D	C	B	A	F	D	C	B	A	Uni	F	D	C	B	A
	AFG Global Database	1.3%	0.5%	1.0%	1.3%	1.7%	1.8%	-0.9%	-0.3%	0.0%	0.4%	0.5%	5912	1037	1128	1237	1249	1260
	North America	2.3%	1.7%	1.1%	3.3%	3.2%	2.1%	-0.6%	-1.3%	1.0%	0.8%	-0.3%	2298	374	381	466	515	562
	Europe	3.8%	3.7%	4.3%	3.2%	3.3%	4.5%	-0.1%	0.5%	-0.6%	-0.5%	0.7%	1473	263	281	306	307	314
	Asia	-1.7%	-3.1%	-1.0%	-1.9%	-1.4%	-1.2%	-1.4%	0.7%	-0.2%	0.3%	0.5%	2054	386	440	448	409	368
	AFG US Database	2.5%	2.6%	0.6%	3.8%	3.1%	2.1%	0.1%	-1.9%	1.3%	0.6%	-0.4%	2057	313	330	426	471	516
GICs Sector Analysis	Communication Services	-0.4%	0.3%	-10.6%	4.1%	-0.6%	1.3%	0.7%	-10.2%	4.5%	-0.2%	1.7%	84	19	12	14	17	21
	Consumer Discretionary	1.0%	7.1%	-3.8%	0.3%	1.3%	1.0%	6.1%	-4.8%	-0.7%	0.3%	0.0%	237	19	32	41	61	83
	Consumer Staples	0.1%	10.1%	-0.4%	4.4%	-1.4%	-4.3%	9.9%	-0.5%	4.3%	-1.5%	-4.4%	78	6	18	16	17	19
	Energy	-8.8%	-9.9%	-7.8%	-7.8%	-7.6%	-12.4%	-1.1%	1.0%	1.0%	1.2%	-3.6%	145	20	26	30	35	32
	Financials	6.3%	6.6%	6.2%	5.2%	7.7%	6.0%	0.3%	-0.1%	-1.1%	1.4%	-0.3%	340	27	47	82	94	89
	Health Care	2.2%	2.9%	-0.8%	1.2%	4.9%	1.7%	0.7%	-3.0%	-1.0%	2.7%	-0.5%	242	56	35	41	40	68
	Industrials	7.7%	10.6%	4.3%	7.0%	6.7%	9.9%	2.9%	-3.4%	-0.7%	-1.0%	2.2%	308	50	50	63	72	72
	Information Technology	2.2%	0.2%	4.1%	0.3%	7.3%	0.5%	-1.9%	1.9%	-1.9%	5.1%	-1.7%	293	74	50	54	49	66
	Materials	1.4%	-3.0%	3.7%	2.7%	1.4%	2.2%	-4.4%	2.3%	1.3%	0.0%	0.8%	97	15	23	24	19	14
	Real Estate	0.8%	1.1%	-2.4%	3.7%	-1.3%	0.3%	0.2%	-3.2%	2.9%	-2.1%	-0.5%	162	11	21	43	52	34
Utilities	4.3%	4.8%	3.9%	5.9%	6.3%	1.4%	0.5%	-0.4%	1.6%	2.0%	-2.9%	66	11	13	14	12	15	
Size/Style	Large (6000M+ USD)	4.3%	5.6%	1.1%	5.1%	4.8%	4.3%	1.3%	-3.2%	0.8%	0.5%	0.0%	689	65	92	143	174	213
	Mid (2000M-6000M)	2.2%	3.1%	1.9%	3.6%	3.0%	0.1%	0.9%	-0.4%	1.4%	0.7%	-2.2%	604	97	102	119	130	154
	Small (500M-2000M)	1.1%	0.7%	-0.7%	2.6%	1.6%	0.9%	-0.4%	-1.8%	1.5%	0.6%	-0.2%	763	150	136	163	166	148
	Micro (0-500M)	-5.7%	-6.9%	-7.3%	-5.9%	-5.0%	-2.7%	-1.2%	-1.6%	-0.2%	0.7%	3.0%	755	197	155	140	127	134
	Value (< Median MVIC)	0.7%	1.0%	-4.1%	1.7%	2.2%	0.8%	0.3%	-4.7%	1.0%	1.5%	0.1%	818	106	105	153	187	265
	Growth (>= Median MVIC)	3.8%	3.4%	2.8%	4.8%	3.9%	3.6%	-0.3%	-1.0%	1.1%	0.1%	-0.1%	1236	206	224	272	283	250
Indices	Russell 1000 @ Index	3.5%	3.0%	1.2%	4.5%	4.5%	3.2%	-0.6%	-2.3%	1.0%	1.0%	-0.4%	946	89	123	192	235	305
	Russell 2000 @ Index	-0.3%	0.7%	-1.4%	0.4%	-0.3%	-1.3%	1.0%	-1.1%	0.6%	0.0%	-1.0%	1573	341	304	321	315	290
	S&P 500 @ Index	4.0%	7.6%	-0.4%	5.0%	3.6%	4.5%	3.7%	-4.3%	1.1%	-0.4%	0.6%	498	28	65	104	126	174
	ADR Universe	0.6%	-3.4%	2.3%	0.8%	4.0%	-0.4%	-4.1%	1.6%	0.2%	3.4%	-1.0%	608	104	88	105	129	181
	AFG International Database	0.6%	-0.5%	1.2%	0.0%	0.8%	1.5%	-1.1%	0.6%	-0.6%	0.2%	0.9%	3854	723	798	810	778	743
Country Analysis	Canada	0.7%	-1.8%	3.2%	-1.8%	3.2%	0.9%	-2.5%	2.5%	-2.4%	2.5%	0.3%	240	60	50	40	44	45
	Austria	4.0%	7.0%	1.0%	9.5%	0.2%	-1.1%	3.0%	-3.0%	5.5%	-3.8%	-5.0%	30	6	7	6	5	6
	Belgium	0.7%	-2.3%	-2.4%	2.7%	1.2%	4.7%	-2.9%	-3.1%	2.0%	0.5%	4.0%	51	9	11	5	10	14
	Denmark	1.9%	13.2%	12.7%	-2.7%	-2.5%	2.2%	11.3%	10.8%	-4.6%	-4.4%	0.3%	39	1	10	10	10	8
	Finland	5.6%	11.0%	5.5%	0.7%	5.1%	8.0%	5.5%	0.0%	-4.9%	-0.4%	2.4%	47	4	8	10	13	10
	France	5.0%	4.5%	4.8%	3.7%	6.7%	5.5%	-0.5%	-0.2%	-1.3%	1.7%	0.5%	168	29	26	38	37	37
	Germany	3.9%	0.7%	2.5%	4.1%	4.2%	8.6%	-3.2%	-1.4%	0.2%	0.3%	4.7%	173	35	36	36	29	34
	Greece	23.8%	14.7%	16.1%	24.1%	30.6%	21.8%	-9.1%	-7.8%	0.3%	6.8%	-2.0%	22	3	5	5	5	2
	Ireland	-1.6%	-1.2%	10.2%	-2.4%	-2.8%	-8.7%	0.4%	11.8%	-0.9%	-1.2%	-7.1%	22	4	3	4	7	4
	Italy	1.6%	6.5%	-0.9%	0.7%	-2.2%	3.8%	5.0%	-2.5%	-0.9%	-3.7%	2.2%	91	16	16	20	19	17
	Luxembourg	4.3%	3.8%	-3.9%	-3.3%	6.0%	18.0%	-0.5%	-8.2%	-7.6%	1.7%	13.7%	17	7	3	1	1	3
	Netherlands	4.4%	1.3%	-0.7%	6.9%	3.3%	9.5%	-3.1%	-5.1%	2.5%	-1.1%	5.1%	69	14	13	8	12	20
	Norway	-0.9%	-0.7%	-4.4%	2.0%	-1.4%	-4.1%	0.1%	-3.6%	2.8%	-0.5%	-3.2%	50	15	11	8	9	6
	Spain	-0.4%	3.3%	-0.9%	-4.9%	1.4%	0.3%	3.7%	-0.4%	-4.4%	1.8%	0.7%	70	11	12	18	14	14
	Sweden	8.0%	12.2%	10.2%	7.8%	7.6%	3.9%	4.2%	2.2%	-0.2%	-0.4%	-4.1%	127	16	22	27	32	30
	Switzerland	6.3%	10.5%	4.4%	8.9%	4.2%	5.1%	4.2%	-1.9%	2.6%	-2.1%	-1.2%	118	14	24	28	25	27
	United Kingdom	2.5%	1.5%	7.2%	1.1%	1.8%	1.5%	-1.0%	4.7%	-1.3%	-0.7%	-1.0%	373	74	70	77	74	77
	Australia	5.4%	3.2%	6.3%	6.5%	5.4%	7.1%	-2.2%	0.8%	1.1%	-0.1%	1.7%	211	43	47	43	37	39
	Hong Kong	-4.2%	-5.2%	-3.4%	-5.9%	-3.8%	-2.0%	-1.0%	0.8%	-1.7%	0.4%	2.2%	303	69	68	71	50	44
	Japan	-3.2%	-3.2%	-2.6%	-2.9%	-3.8%	-3.7%	0.0%	0.6%	0.3%	-0.6%	-0.5%	931	160	203	203	191	172
New Zealand	8.0%	20.4%	10.1%	-0.1%	7.6%	3.2%	12.4%	2.1%	-8.1%	-0.4%	-4.8%	37	4	9	8	9	6	
Singapore	2.2%	-1.0%	6.0%	0.2%	3.1%	0.7%	-3.2%	3.9%	-2.0%	0.9%	-1.4%	90	9	17	15	23	24	
South Korea	-4.5%	-7.7%	-3.7%	-4.8%	-1.5%	-1.7%	-3.2%	0.8%	-0.4%	3.0%	2.8%	262	66	52	52	49	40	
Taiwan	1.2%	-0.6%	1.9%	3.2%	0.5%	0.2%	-1.9%	0.6%	2.0%	-0.8%	-1.0%	220	33	43	53	48	41	
South Africa	3.1%	2.3%	2.3%	1.7%	2.9%	7.6%	-0.8%	-0.8%	-1.4%	-0.2%	4.5%	86	12	25	16	17	15	
GICs Sector Analysis	Communication Services	1.7%	-2.3%	4.2%	2.9%	0.7%	2.1%	-4.0%	2.5%	1.2%	-1.0%	0.5%	211	29	42	50	43	46
	Consumer Discretionary	-0.4%	-3.2%	1.2%	-2.1%	1.4%	1.5%	-2.8%	1.6%	-1.7%	1.7%	1.9%	550	115	112	121	104	97
	Consumer Staples	-2.4%	-3.1%	-1.7%	-1.3%	-3.5%	-2.8%	-0.7%	0.7%	1.1%	-1.1%	-0.4%	282	49	60	64	52	56
	Energy	-5.3%	-6.3%	-3.2%	-7.5%	-2.7%	-7.0%	-1.0%	2.1%	-2.2%	2.6%	-1.7%	130	33	27	26	25	18
	Financials	1.7%	-0.1%	1.2%	3.4%	1.4%	2.7%	-1.9%	-0.5%	1.6%	-0.3%	0.9%	432	85	88	84	88	85
	Health Care	-1.7%	-4.7%	-2.4%	-2.6%	-2.4%	1.5%	-3.0%	-0.7%	-0.9%	-0.7%	3.2%	275	25	46	57	81	65
	Industrials	1.6%	0.5%	1.1%	0.7%	2.8%	3.1%	-1.1%	-0.5%	-1.0%	1.1%	1.4%	758	150	158	159	136	154
	Information Technology	2.8%	1.8%	4.9%	1.9%	2.5%	3.1%	-1.1%	2.1%	-0.9%	-0.3%	0.3%	379	53	80	89	85	70
	Materials	1.0%	2.2%	0.5%	-1.9%	2.6%	2.2%	1.2%	-0.5%	-2.9%	1.6%	1.2%	347	65	73	72	71	65
	Real Estate	1.3%	2.3%	2.7%	0.5%	1.0%	-0.8%	1.0%	1.4%	-0.8%	-0.3%	-2.1%	361	91	78	62	66	63
Utilities	0.5%	1.3%	2.9%	0.3%	-2.4%	0.2%	0.8%	2.4%	-0.2%	-2.9%	-0.3%	125	25	30	23	24	21	
Size/Style	Large (6000M+ USD)	1.5%	1.2%	1.5%	0.5%	1.7%	2.2%	-0.3%	0.0%	-1.0%	0.2%	0.7%	901	109	162	182	219	227
	Mid (2000M-6000M)	0.6%	-0.8%	0.3%	0.3%	0.5%	3.2%	-1.4%	-0.4%	-0.3%	-0.1%	2.6%	993	193	215	216	192	177
	Small (500M-2000M)	0.2%	-0.8%	1.5%	-0.3%	0.5%	0.1%	-1.0%	1.3%	-0.5%	0.3%	-0.1%	1959	421	420	412	367	339
	Micro (0-500M)	1.3%	0.2%	1.2%	1.3%	1.3%	2.4%	-1.0%	-0.1%	0.0%	0.0%	1.1%	3963	840	789	775	778	780
	Value (< Median MVIC)	-0.3%	-0.4%	0.2%	-1.4%	-0.5%	0.6%	-0.1%	0.4%	-1.1%	-0.2%	0.8%	1660	289	316	329	334	391
	Growth (>= Median MVIC)	1.3%	-0.6%	1.9%	1.1%	1.8%	2.5%	-1.9%	0.6%	-0.2%	0.5%	1.3%	2192	434	482	480	444	352

AFG Research Database: Company Grade [Global Quintile By GICS Sector] from 3/31/19 to 6/30/19
 International Analysis | All Sectors | 500M+ USD*
 United States Analysis | All Sectors | 500M+ USD*

*Size Tiers and US Indices include all firms that meet the market cap or index criteria.

Percent to Target – 2019 Q2



	Percent to Target - Current 2019 Q2	Returns						Return Spreads					Counts					
		Uni	F	D	C	B	A	F	D	C	B	A	Uni	F	D	C	B	A
	AFG Global Database	1.3%	1.8%	1.8%	1.5%	0.8%	0.4%	0.4%	0.5%	0.2%	-0.6%	-0.9%	5964	1097	1331	1253	1224	1057
	North America	2.3%	3.0%	2.4%	2.2%	1.4%	2.3%	0.7%	0.0%	-0.2%	-1.0%	0.0%	2310	504	528	483	425	368
	Europe	3.8%	4.5%	4.0%	3.9%	3.6%	2.8%	0.6%	0.2%	0.1%	-0.3%	-1.0%	1492	238	354	321	300	278
	Asia	-1.7%	-1.9%	-0.6%	-1.1%	-2.0%	-3.3%	-0.1%	1.1%	0.7%	-0.2%	-1.5%	2074	344	431	431	466	400
	AFG US Database	2.5%	3.2%	2.7%	2.7%	1.6%	1.7%	0.7%	0.2%	0.2%	-0.9%	-0.8%	2069	457	470	431	375	335
GICs Sector Analysis	Communication Services	-0.8%	-6.1%	-3.1%	1.3%	2.7%	5.8%	-5.3%	-2.3%	2.0%	3.4%	6.5%	85	23	20	9	15	16
	Consumer Discretionary	0.9%	0.2%	4.3%	-2.2%	-2.3%	3.8%	-0.7%	3.5%	-3.0%	-3.1%	3.0%	239	31	49	57	50	51
	Consumer Staples	0.7%	4.8%	4.5%	-1.6%	-3.7%	-2.9%	4.1%	3.8%	-2.3%	-4.4%	-3.6%	79	18	18	17	12	12
	Energy	-8.9%	-3.0%	-8.9%	-4.2%	-9.2%	-18.0%	5.9%	0.0%	4.6%	-0.4%	-9.1%	147	26	33	25	37	25
	Financials	6.4%	10.6%	4.6%	4.1%	7.5%	7.5%	4.2%	-1.9%	-2.3%	1.1%	1.1%	341	47	74	97	80	41
	Health Care	2.3%	-0.9%	7.0%	2.7%	0.8%	1.6%	-3.2%	4.7%	0.4%	-1.5%	-0.7%	243	48	54	48	39	54
	Industrials	7.7%	9.0%	5.9%	6.9%	6.5%	10.5%	1.3%	-1.8%	-0.8%	-1.2%	2.7%	309	68	77	65	54	43
	Information Technology	2.0%	0.7%	2.4%	7.5%	1.4%	-0.3%	-1.3%	0.5%	5.6%	-0.6%	-2.3%	296	99	53	45	37	60
	Materials	1.3%	6.5%	-1.0%	0.4%	-1.1%	-2.2%	5.3%	-2.3%	-0.9%	-2.4%	-3.4%	98	25	31	19	14	8
	Real Estate	0.8%	3.5%	0.6%	0.1%	-0.3%	-5.2%	2.7%	-0.2%	-0.7%	-1.1%	-6.0%	162	59	39	22	25	16
Utilities	4.3%	6.3%	3.9%	3.9%	4.5%	2.4%	2.0%	-0.4%	-0.4%	0.1%	-1.9%	66	8	19	23	10	6	
Size/Style	Large (6000M+ USD)	4.3%	5.7%	2.5%	5.4%	2.3%	5.7%	1.4%	-1.8%	1.1%	-2.0%	1.4%	694	136	153	143	126	135
	Mid (2000M-6000M)	2.1%	1.1%	5.7%	1.3%	2.1%	-0.5%	-1.0%	3.6%	-0.8%	0.0%	-2.6%	605	148	128	112	122	93
	Small (500M-2000M)	1.1%	2.9%	0.9%	1.4%	0.0%	-1.6%	1.8%	-0.2%	0.3%	-1.0%	-2.7%	770	173	188	175	126	106
	Micro (0-500M)	-5.7%	-5.7%	-1.4%	-2.3%	-6.5%	-13.3%	0.0%	4.3%	3.3%	-0.8%	-7.6%	764	238	138	135	126	125
	Value (< Median MVIC)	0.6%	-3.0%	1.5%	2.1%	0.5%	-0.1%	-3.5%	1.0%	1.5%	-0.1%	-0.7%	821	76	120	183	223	218
	Growth (>= Median MVIC)	3.8%	4.4%	3.1%	3.3%	3.2%	5.1%	0.6%	-0.6%	-0.5%	-0.6%	1.3%	1245	379	349	248	152	116
Indices	Russell 1000 @ Index	3.5%	3.7%	3.0%	4.6%	2.5%	3.6%	0.2%	-0.6%	1.1%	-1.1%	0.1%	947	161	193	189	193	209
	Russell 2000 @ Index	-0.2%	0.7%	1.9%	0.8%	-2.4%	-5.1%	1.0%	2.2%	1.0%	-2.2%	-4.8%	1579	412	365	329	253	219
	S&P 500 @ Index	3.9%	4.2%	1.7%	5.7%	2.3%	5.8%	0.3%	-2.2%	1.7%	-1.6%	1.8%	499	69	105	106	106	112
	ADR Universe	0.7%	1.0%	-0.6%	2.1%	-1.1%	1.3%	0.3%	-1.3%	1.4%	-1.7%	0.7%	613	120	93	105	116	178
	AFG International Database	0.6%	0.8%	1.5%	0.8%	0.3%	-0.3%	0.1%	0.8%	0.2%	-0.4%	-0.9%	3894	639	861	822	849	722
Country Analysis	Canada	0.8%	2.2%	0.4%	-2.4%	-1.0%	8.3%	1.4%	-0.4%	-3.2%	-1.8%	7.5%	241	46	58	52	50	33
	Austria	4.0%	4.8%	3.4%	-11.7%	1.8%	12.8%	0.8%	-0.5%	-15.7%	-2.2%	8.8%	30	4	10	3	8	4
	Belgium	0.7%	5.2%	-3.8%	-3.8%	2.8%	4.6%	4.5%	-4.5%	-4.5%	2.1%	3.9%	51	7	14	8	14	6
	Denmark	2.0%	7.5%	0.2%	9.6%	-0.3%	-4.1%	5.6%	-1.7%	7.6%	-2.3%	-6.0%	40	8	8	5	10	8
	Finland	5.6%	6.6%	7.1%	1.7%	6.8%	2.0%	1.0%	1.5%	-3.9%	1.2%	-3.6%	47	2	14	12	10	7
	France	5.1%	4.3%	6.4%	2.9%	3.0%	7.6%	-0.7%	1.4%	-2.1%	-2.0%	2.6%	171	28	31	32	37	42
	Germany	4.1%	6.1%	3.1%	5.7%	3.0%	2.7%	2.0%	-1.0%	1.6%	-1.1%	-1.4%	175	24	39	39	30	42
	Greece	23.8%	10.6%	16.1%	17.3%	28.5%	63.3%	-13.2%	-7.7%	-6.5%	4.6%	39.4%	22	4	6	4	3	3
	Ireland	-1.6%	8.2%	6.0%	2.9%	-11.7%	-5.2%	9.8%	7.5%	4.5%	-10.2%	-3.6%	22	1	3	7	4	6
	Italy	1.4%	3.3%	2.9%	-0.9%	-0.7%	1.4%	1.9%	1.4%	-2.3%	-2.1%	0.0%	92	18	23	14	15	20
	Luxembourg	4.3%	-0.8%	1.1%	0.3%	8.5%	9.4%	-5.1%	-3.2%	-4.0%	4.2%	5.1%	17	4	4	2	1	5
	Netherlands	4.3%	1.9%	1.5%	4.6%	2.9%	10.6%	-2.4%	-2.9%	0.2%	-1.4%	6.3%	70	13	13	14	15	13
	Norway	-0.7%	-0.8%	-2.2%	1.5%	1.5%	-2.9%	-0.1%	-1.4%	2.2%	2.2%	-2.2%	50	14	13	10	5	6
	Spain	-0.4%	-3.7%	0.1%	1.4%	-0.6%	-0.3%	-3.3%	0.5%	1.9%	-0.2%	0.1%	72	10	16	14	17	13
	Sweden	7.9%	4.6%	9.8%	9.7%	6.0%	2.8%	-3.3%	1.9%	1.8%	-1.9%	-5.1%	129	17	37	35	23	15
	Switzerland	6.1%	10.0%	4.2%	3.6%	8.0%	5.9%	3.9%	-1.9%	-2.5%	1.9%	-0.2%	120	16	22	35	34	13
	United Kingdom	2.5%	5.1%	4.0%	3.3%	3.5%	-3.4%	2.6%	1.6%	0.8%	1.0%	-5.9%	378	63	95	81	66	72
	Australia	5.4%	6.6%	6.3%	4.4%	5.4%	2.5%	1.2%	0.9%	-1.1%	0.0%	-2.9%	211	52	51	48	38	20
	Hong Kong	-4.4%	-4.3%	-2.2%	-3.9%	-5.7%	-5.4%	0.1%	2.1%	0.5%	-1.4%	-1.1%	309	56	58	65	62	67
	Japan	-3.1%	-2.9%	-1.5%	-2.8%	-3.1%	-4.8%	0.2%	1.6%	0.3%	0.0%	-1.7%	935	149	177	165	231	212
New Zealand	8.0%	15.2%	10.5%	6.8%	4.9%	-2.0%	7.3%	2.5%	-1.2%	-3.1%	-10.0%	37	5	8	14	7	2	
Singapore	2.1%	1.6%	-0.5%	3.7%	2.6%	1.0%	-0.5%	-2.6%	1.6%	0.5%	-1.2%	91	6	10	31	21	22	
South Korea	-4.6%	-8.7%	-5.1%	-6.0%	-3.3%	0.1%	-4.1%	-0.5%	-1.5%	1.2%	4.6%	269	45	64	53	55	51	
Taiwan	1.2%	1.6%	1.2%	3.2%	0.3%	-2.0%	0.5%	0.1%	2.0%	-0.9%	-3.2%	220	30	61	53	51	24	
South Africa	3.1%	-0.2%	5.8%	2.4%	3.4%	-0.5%	-3.2%	2.7%	-0.7%	0.3%	-3.5%	87	9	17	17	32	10	
GICs Sector Analysis	Communication Services	1.6%	-0.5%	0.8%	3.8%	0.0%	2.5%	-2.0%	-0.7%	2.2%	-1.5%	0.9%	213	21	49	51	52	39
	Consumer Discretionary	-0.3%	-2.0%	-0.5%	0.9%	-0.2%	0.2%	-1.7%	-0.2%	1.2%	0.1%	0.5%	556	104	135	105	101	110
	Consumer Staples	-2.3%	-2.7%	-0.1%	-3.1%	-2.8%	-3.2%	-0.4%	2.2%	-0.8%	-0.5%	-0.9%	285	52	65	61	60	45
	Energy	-5.4%	-4.5%	-3.4%	-7.1%	-8.0%	-7.4%	0.8%	1.9%	-1.7%	-2.6%	-2.1%	130	25	41	33	21	10
	Financials	1.7%	2.7%	4.0%	1.9%	1.7%	-0.7%	1.0%	2.3%	0.2%	0.0%	-2.3%	436	86	73	66	92	118
	Health Care	-1.7%	-11.3%	2.3%	0.5%	-2.4%	-2.7%	-9.6%	4.0%	2.2%	-0.7%	-1.0%	278	18	49	63	76	71
	Industrials	1.7%	2.6%	0.2%	2.0%	1.6%	1.9%	1.0%	-1.5%	0.4%	-0.1%	0.2%	764	137	168	161	166	130
	Information Technology	2.8%	6.7%	4.2%	-0.4%	2.4%	2.6%	3.9%	1.4%	-3.2%	-0.4%	-0.2%	386	51	95	83	87	69
	Materials	1.0%	0.7%	2.6%	0.8%	0.8%	-0.3%	-0.3%	1.6%	-0.2%	-0.2%	-1.3%	348	60	74	83	86	45
	Real Estate	1.3%	2.2%	3.0%	4.0%	-0.4%	-3.5%	0.9%	1.7%	2.7%	-1.7%	-4.8%	367	52	86	89	76	63
Utilities	0.5%	2.4%	5.6%	-0.7%	0.9%	-7.2%	1.8%	5.1%	-1.3%	0.3%	-7.8%	126	30	24	23	28	19	
Size/Style	Large (6000M+ USD)	1.5%	3.6%	0.9%	2.7%	1.1%	0.2%	2.0%	-0.6%	1.2%	-0.4%	-1.3%	905	130	179	187	203	205
	Mid (2000M-6000M)	0.7%	-1.9%	1.7%	0.5%	1.4%	1.0%	-2.6%	1.0%	-0.2%	0.7%	0.3%	999	164	247	227	196	164
	Small (500M-2000M)	0.2%	1.0%	1.5%	0.2%	-0.6%	-1.2%	0.8%	1.3%	0.0%	-0.8%	-1.5%	1989	345	434	407	449	353
	Micro (0-500M)	1.3%	1.6%	0.7%	2.0%	1.5%	0.9%	0.3%	-0.6%	0.6%	0.1%	-0.4%	4073	828	723	795	813	913
	Value (< Median MVIC)	-0.2%	-2.0%	2.6%	-0.1%	-0.3%	-1.0%	-1.8%	2.8%	0.1%	-0.1%	-0.8%	1676	114	211	312	502	536
	Growth (>= Median MVIC)	1.3%	1.3%	1.1%	1.5%	1.1%	1.6%	0.1%	-0.2%	0.2%	-0.1%	0.3%	2217	525	650	510	345	186

AFG Research Database: Percent to Target – Current [Global Quintile By GICS Sector] from 3/31/19 to 6/30/19

International Analysis | All Sectors | 500M+ USD*

United States Analysis | All Sectors | 500M+ USD*

*Size Tiers and US Indices include all firms that meet the market cap or index criteria.

	EM Momentum 2019 Q2	Returns						Return Spreads					Counts					
		Uni	F	D	C	B	A	F	D	C	B	A	Uni	F	D	C	B	A
	AFG Global Database	1.3%	0.4%	1.5%	-0.4%	2.5%	-0.2%	-0.9%	0.2%	-1.7%	1.2%	-1.5%	5965	882	2314	618	1679	471
	North America	2.3%	0.2%	3.2%	2.0%	3.1%	-0.3%	-2.1%	0.9%	-0.3%	0.7%	-2.6%	2306	349	860	158	698	238
	Europe	3.8%	4.2%	3.3%	2.7%	4.9%	2.7%	0.3%	-0.5%	-1.2%	1.1%	-1.1%	1503	210	633	120	451	88
	Asia	-1.7%	-2.5%	-1.7%	-2.4%	-0.6%	-3.2%	-0.7%	0.0%	-0.7%	1.1%	-1.4%	2070	301	783	328	520	137
	AFG US Database	2.5%	0.5%	3.1%	2.3%	3.0%	0.7%	-2.0%	0.6%	-0.2%	0.5%	-1.8%	2061	300	780	139	636	205
GICs Sector Analysis	Communication Services	-0.3%	-5.8%	2.6%	9.4%	0.5%	-3.8%	-5.5%	2.9%	9.8%	0.8%	-3.5%	84	14	26	7	22	13
	Consumer Discretionary	1.0%	1.1%	2.2%	0.0%	-0.8%	1.0%	0.0%	1.2%	-1.0%	-1.8%	-0.1%	238	22	104	12	82	16
	Consumer Staples	0.1%	3.9%	-1.3%	-6.9%	4.9%	-2.9%	3.8%	-1.4%	-7.0%	4.7%	-3.0%	78	5	36	8	24	4
	Energy	-8.9%	-17.7%	-2.7%	3.1%	-5.3%	-13.9%	-8.9%	6.2%	12.0%	3.6%	-5.1%	146	24	45	2	40	34
	Financials	6.3%	6.1%	6.7%	4.9%	5.2%	8.9%	-0.3%	0.4%	-1.4%	-1.1%	2.5%	341	55	126	24	91	43
	Health Care	2.2%	2.5%	0.2%	-4.9%	2.1%	5.9%	0.3%	-2.0%	-7.1%	-0.1%	3.6%	242	64	65	10	68	34
	Industrials	7.7%	7.6%	7.4%	7.0%	8.3%	8.6%	-0.1%	-0.3%	-0.7%	0.6%	0.9%	308	25	142	21	102	17
	Information Technology	2.0%	0.0%	1.2%	1.8%	3.4%	2.2%	-2.1%	-0.8%	-0.2%	1.4%	0.2%	295	48	101	25	96	22
	Materials	1.3%	-5.5%	2.1%	-2.2%	0.5%	4.8%	-6.8%	0.7%	-3.6%	-0.8%	3.4%	98	13	47	5	24	7
	Real Estate	0.8%	-3.3%	-0.8%	4.0%	3.6%	-3.5%	-4.1%	-1.6%	3.2%	2.7%	-4.3%	162	23	59	14	54	10
Utilities	4.3%	7.7%	4.3%	6.9%	3.4%	-4.5%	3.4%	-0.1%	2.6%	-1.0%	-8.8%	66	3	25	9	28	1	
Size/Style	Large (6000M+ USD)	4.3%	4.5%	4.0%	5.6%	5.0%	1.5%	0.2%	-0.3%	1.3%	0.7%	-2.8%	690	58	283	29	269	50
	Mid (2000M-6000M)	2.2%	-2.0%	4.4%	-1.1%	3.0%	-2.4%	-4.2%	2.2%	-3.3%	0.8%	-4.6%	604	80	239	37	194	53
	Small (500M-2000M)	1.1%	0.4%	1.1%	3.1%	0.1%	1.9%	-0.6%	0.0%	2.0%	-1.0%	0.8%	766	162	257	72	172	101
	Micro (0-500M)	-5.8%	-8.5%	-6.4%	-5.4%	-6.3%	-1.3%	-2.7%	-0.6%	0.4%	-0.5%	4.5%	761	222	136	183	85	135
	Value (< Median MVIC)	0.6%	-0.9%	1.8%	-1.2%	1.0%	-2.2%	-1.5%	1.2%	-1.8%	0.4%	-2.8%	819	123	340	56	220	79
	Growth (>= Median MVIC)	3.8%	1.4%	4.2%	4.6%	4.2%	2.6%	-2.3%	0.5%	0.8%	0.4%	-1.2%	1238	176	439	82	415	126
Indices	Russell 1000 @ Index	3.5%	-1.0%	4.3%	5.2%	4.6%	-0.8%	-4.5%	0.7%	1.6%	1.0%	-4.3%	946	88	402	43	347	64
	Russell 2000 @ Index	-0.3%	-0.4%	0.2%	-1.4%	-0.7%	-0.9%	-0.1%	0.5%	-1.1%	-0.4%	-0.6%	1575	343	490	176	353	211
	S&P 500 @ Index	4.0%	3.8%	4.3%	2.6%	4.3%	1.3%	-0.2%	0.4%	-1.3%	0.3%	-2.7%	499	32	219	18	201	26
	ADR Universe	0.5%	-0.3%	2.6%	-6.0%	1.7%	0.9%	-0.9%	2.1%	-6.5%	1.1%	0.3%	611	140	171	88	125	86
	AFG International Database	0.7%	0.4%	0.7%	-1.0%	2.1%	-1.4%	-0.2%	0.0%	-1.6%	1.4%	-2.1%	3904	582	1534	478	1043	266
Country Analysis	Canada	0.8%	-0.1%	3.2%	0.1%	3.1%	-7.4%	-0.9%	2.4%	-0.7%	2.3%	-8.2%	244	49	80	19	62	33
	Austria	4.0%	-3.8%	14.2%	-1.8%	-3.7%	5.4%	-7.8%	10.2%	-5.8%	-7.7%	1.4%	30	3	9	3	12	3
	Belgium	0.7%	10.5%	-4.4%	1.4%	3.9%	-1.2%	9.8%	-5.0%	0.7%	3.3%	-1.9%	51	7	21	7	12	3
	Denmark	2.3%	8.7%	6.1%	-3.5%	-2.9%	-7.1%	6.5%	3.9%	-5.8%	-5.2%	-9.4%	40	7	13	1	14	4
	Finland	5.6%	15.2%	1.7%	-0.3%	6.1%	24.4%	9.6%	-3.9%	-5.9%	0.5%	18.9%	47	4	22	2	16	2
	France	5.1%	7.3%	3.8%	4.5%	5.9%	3.8%	2.3%	-1.2%	-0.5%	0.9%	-1.2%	171	14	76	13	61	5
	Germany	4.1%	-4.0%	4.8%	-1.7%	9.0%	5.3%	-8.1%	0.7%	-0.5%	4.9%	1.2%	175	27	85	10	44	9
	Greece	23.8%	62.3%	12.2%	24.3%	16.5%	28.4%	38.4%	-11.6%	0.5%	-7.3%	4.5%	22	3	5	4	6	2
	Ireland	-1.6%	6.6%	-5.2%	-7.0%	1.5%	-5.7%	8.2%	-3.6%	-5.4%	3.0%	-4.1%	22	3	9	3	6	1
	Italy	1.5%	-8.3%	3.6%	-5.1%	4.1%	-1.5%	-9.8%	2.1%	-6.6%	2.6%	-3.0%	91	14	34	7	30	5
	Luxembourg	4.3%	8.3%	-4.9%	8.7%	30.3%	-3.4%	4.0%	-9.3%	4.4%	26.0%	-7.7%	17	4	8	1	2	2
	Netherlands	4.3%	6.3%	5.1%	1.4%	4.8%	-0.7%	2.0%	0.7%	-2.9%	0.5%	-5.1%	70	8	33	3	22	2
	Norway	-0.7%	-0.1%	-1.4%	-1.1%	0.3%	1.3%	0.6%	-0.6%	-0.4%	1.0%	2.0%	50	11	20	1	9	7
	Spain	-0.4%	5.2%	-0.4%	-9.3%	0.2%	0.7%	5.6%	0.0%	-8.9%	0.7%	1.1%	72	11	25	5	25	4
	Sweden	8.0%	8.3%	11.3%	1.6%	7.4%	1.7%	0.3%	3.4%	-6.3%	-0.5%	-6.3%	128	14	43	7	49	15
	Switzerland	6.1%	8.3%	5.4%	4.0%	6.2%	0.9%	2.2%	-0.7%	-2.1%	0.1%	-5.2%	122	26	47	10	33	4
	United Kingdom	2.5%	2.5%	1.4%	4.3%	3.5%	5.6%	0.0%	-1.1%	1.8%	0.9%	3.1%	388	49	178	38	105	17
	Australia	5.4%	8.0%	4.1%	0.8%	7.2%	7.3%	2.6%	-1.3%	-4.6%	1.8%	1.9%	211	31	82	22	60	15
	Hong Kong	-4.2%	-8.5%	-5.1%	-1.1%	-1.0%	-8.3%	-4.3%	-0.8%	3.1%	3.2%	-4.1%	307	53	108	44	74	27
	Japan	-3.1%	-2.9%	-3.4%	-3.8%	-2.3%	-4.1%	0.2%	-0.3%	-0.6%	0.8%	-0.9%	935	112	384	152	246	40
New Zealand	8.0%	6.1%	5.9%	9.2%	2.7%	12.8%	-1.9%	-2.1%	1.2%	-5.2%	4.8%	37	2	15	6	11	1	
Singapore	2.1%	0.0%	3.3%	2.9%	1.7%	-0.7%	-2.1%	1.2%	0.8%	-0.4%	-2.8%	90	12	23	32	14	8	
South Korea	-4.5%	-4.7%	-2.9%	-12.8%	-3.7%	-5.9%	-0.2%	1.5%	-8.3%	0.8%	-1.4%	268	55	97	29	64	22	
Taiwan	1.1%	1.9%	2.3%	1.5%	0.6%	-3.8%	0.8%	1.2%	0.4%	-0.6%	-4.9%	220	34	73	42	49	21	
South Africa	3.1%	4.6%	0.2%	4.6%	5.3%	7.3%	1.5%	-2.9%	1.6%	2.2%	4.3%	86	21	36	10	10	7	
GICs Sector Analysis	Communication Services	1.6%	-0.3%	3.1%	-0.3%	1.2%	-2.9%	-2.0%	1.5%	-1.9%	-0.4%	-4.5%	212	24	103	15	58	11
	Consumer Discretionary	-0.3%	-0.3%	-1.4%	-0.1%	2.0%	0.1%	0.0%	-1.1%	0.2%	2.4%	0.4%	556	62	264	68	141	20
	Consumer Staples	-2.3%	-5.9%	-1.6%	-1.0%	-2.6%	2.6%	-3.6%	0.7%	1.3%	-0.3%	4.9%	285	31	129	36	83	5
	Energy	-5.3%	-2.7%	-4.7%	-2.6%	-7.9%	-6.9%	2.6%	0.6%	2.6%	-2.6%	-1.6%	130	22	43	8	34	21
	Financials	1.7%	1.0%	1.6%	0.6%	4.6%	-0.2%	-0.7%	-0.1%	-1.0%	2.9%	-1.9%	436	120	127	49	92	46
	Health Care	-1.7%	-0.5%	-0.9%	-8.8%	2.3%	-11.2%	1.2%	0.8%	-7.1%	4.0%	-9.5%	277	41	101	40	77	18
	Industrials	1.7%	0.4%	2.0%	-3.4%	3.6%	0.2%	-1.3%	0.3%	-5.1%	1.9%	-1.5%	763	85	334	83	228	32
	Information Technology	2.7%	0.9%	2.1%	0.8%	5.1%	1.7%	-1.9%	-0.6%	-1.9%	2.4%	-1.1%	385	60	146	30	119	28
	Materials	1.0%	5.1%	0.3%	-4.1%	2.3%	-0.6%	4.0%	-0.7%	-5.1%	1.3%	-1.7%	348	56	141	31	89	30
	Real Estate	1.3%	0.4%	1.8%	3.6%	-0.3%	-0.6%	-0.9%	0.5%	2.3%	-1.6%	-1.9%	366	65	91	88	76	45
Utilities	0.5%	5.6%	-0.8%	1.4%	0.5%	2.3%	5.1%	-1.3%	0.9%	0.0%	1.7%	126	10	50	17	42	6	
Size/Style	Large (6000M+ USD)	1.6%	-0.6%	1.9%	-0.5%	2.6%	-4.0%	-2.2%	0.3%	-2.1%	1.0%	-5.6%	907	96	428	30	309	43
	Mid (2000M-6000M)	0.7%	-0.9%	1.6%	-2.3%	1.1%	-1.3%	-1.6%	0.9%	-3.0%	0.4%	-2.0%	1002	136	438	76	284	67
	Small (500M-2000M)	0.2%	1.2%	-0.7%	-0.7%	2.3%	-0.9%	0.9%	-0.9%	-1.0%	2.0%	-1.2%	1994	350	667	371	449	156
	Micro (0-500M)	1.3%	1.2%	2.6%	0.2%	4.3%	-0.6%	-0.1%	1.3%	-1.0%	3.0%	-1.9%	4076	695	734	1828	483	335
	Value (< Median MVIC)	-0.2%	0.4%	-0.3%	-2.1%	1.2%	-1.8%	0.6%	-0.1%	-1.9%	1.4%	-1.6%	1686	260	680	235	404	106
	Growth (>= Median MVIC)	1.3%	0.4%	1.4%	0.1%	2.6%	-1.1%	-0.8%	0.1%	-1.1%	1.3%	-2.4%	2216	321	853	243	639	159

AFG Research Database: EM Momentum [Global Quintile By GICS Sector] from 3/31/19 to 6/30/19
 International Analysis | All Sectors | 500M+ USD*
 United States Analysis | All Sectors | 500M+ USD*

*Size Tiers and US Indices include all firms that meet the market cap or index criteria.

	Price Momentum 2019 Q2	Returns						Return Spreads					Counts					
		Uni	F	D	C	B	A	F	D	C	B	A	Uni	F	D	C	B	A
	AFG Global Database	1.3%	-1.5%	0.3%	0.4%	1.8%	4.0%	-2.8%	-1.1%	-1.0%	0.5%	2.6%	5849	680	1081	1248	1415	1424
	North America	2.3%	-3.6%	0.6%	2.1%	1.9%	4.5%	-5.9%	-1.7%	-0.2%	-0.4%	2.2%	2256	178	316	387	594	780
	Europe	3.8%	0.7%	3.3%	3.0%	5.1%	7.4%	-3.1%	-0.5%	-0.8%	1.3%	3.6%	1471	218	301	345	345	261
	Asia	-1.6%	-4.0%	-2.6%	-2.4%	-0.7%	0.6%	-2.4%	-1.0%	-0.8%	0.9%	2.2%	2036	258	440	500	468	368
	AFG US Database	2.5%	-3.8%	1.2%	1.8%	2.2%	4.6%	-6.3%	-1.3%	-0.7%	-0.3%	2.1%	2015	152	282	346	529	705
GICs Sector Analysis	Communication Services	-0.4%	-28.2%	16.7%	1.8%	-1.8%	-1.9%	-27.7%	17.1%	2.3%	-1.4%	-1.5%	82	3	10	10	21	37
	Consumer Discretionary	0.9%	-8.2%	0.9%	3.6%	0.0%	2.1%	-9.1%	0.0%	2.7%	-0.9%	1.2%	233	16	30	34	64	89
	Consumer Staples	0.2%	-3.8%	-3.4%	1.6%	-1.8%	2.2%	-4.0%	-3.6%	1.4%	-1.9%	2.1%	77	9	8	9	13	37
	Energy	-8.6%	-21.8%	-13.1%	-7.3%	-5.8%	-4.1%	-13.2%	-4.4%	1.3%	2.8%	4.5%	143	16	30	27	31	37
	Financials	6.4%	7.2%	5.9%	5.8%	4.2%	9.2%	0.8%	-0.5%	-0.7%	-2.3%	2.8%	335	31	64	73	76	90
	Health Care	2.1%	-5.0%	-5.3%	0.0%	4.0%	5.0%	-7.1%	-7.4%	-2.1%	1.8%	2.8%	232	14	32	41	60	85
	Industrials	7.6%	7.2%	8.4%	5.7%	6.4%	8.8%	-0.4%	0.7%	-2.0%	-1.2%	1.2%	302	18	36	57	81	109
	Information Technology	1.9%	-11.1%	-0.9%	-0.3%	2.0%	5.2%	-13.0%	-2.8%	-2.3%	0.1%	3.3%	284	11	32	43	94	102
	Materials	1.9%	-1.3%	1.4%	-3.9%	1.8%	7.4%	-3.2%	-0.6%	-5.9%	-0.2%	5.4%	96	13	13	18	22	29
	Real Estate	0.6%	-1.2%	-7.3%	-0.8%	0.8%	3.5%	-1.9%	-7.9%	-1.5%	0.1%	2.8%	160	17	18	21	40	62
Utilities	4.3%	26.4%	4.4%	8.6%	2.4%	2.4%	22.1%	0.1%	4.3%	-1.9%	-2.0%	66	2	5	10	24	24	
Size/Style	Large (6000M+ USD)	4.3%	3.8%	3.1%	3.5%	3.6%	5.6%	-0.5%	-1.2%	-0.8%	-0.7%	1.3%	684	16	58	113	206	290
	Mid (2000M-6000M)	2.2%	0.2%	-2.0%	1.7%	2.4%	4.4%	-2.0%	-4.2%	-0.5%	0.2%	2.2%	588	33	84	109	158	203
	Small (500M-2000M)	1.0%	-5.9%	2.5%	0.4%	0.3%	3.6%	-6.9%	1.6%	-0.6%	-0.7%	2.6%	742	102	139	124	165	211
	Micro (0-500M)	-6.0%	-14.5%	-6.1%	-0.3%	-4.7%	3.2%	-8.5%	-0.1%	5.7%	1.4%	9.3%	737	253	129	102	99	152
	Value (< Median MVIC)	0.5%	-3.6%	0.4%	1.7%	0.7%	1.5%	-4.1%	-0.1%	1.2%	0.2%	1.0%	806	101	177	163	201	163
	Growth (>= Median MVIC)	3.8%	-4.2%	2.5%	1.9%	3.0%	5.6%	-8.1%	-1.4%	-2.0%	-0.8%	1.7%	1207	51	105	182	328	540
Indices	Russell 1000 @ Index	3.5%	-1.6%	0.0%	2.3%	3.7%	5.8%	-5.1%	-3.5%	-1.2%	0.2%	2.3%	931	53	111	168	276	322
	Russell 2000 @ Index	-0.3%	-9.7%	-0.5%	2.2%	0.2%	3.6%	-9.4%	-0.2%	2.5%	0.5%	3.9%	1534	266	265	254	303	444
	S&P 500 @ Index	4.0%	0.4%	2.2%	4.1%	4.3%	4.5%	-3.6%	-1.8%	0.1%	0.4%	0.5%	498	15	46	97	160	179
	ADR Universe	0.8%	-3.1%	-1.1%	0.6%	2.3%	4.2%	-3.9%	-1.9%	-0.3%	1.4%	3.3%	594	117	96	103	132	144
	AFG International Database	0.7%	-1.4%	-0.3%	-0.1%	1.6%	3.4%	-2.1%	-1.0%	-0.8%	0.9%	2.7%	3834	527	799	901	886	719
Country Analysis	Canada	0.7%	-2.5%	-4.6%	4.3%	-0.3%	2.9%	-3.2%	-5.3%	3.7%	-0.9%	2.2%	240	25	34	40	65	75
	Austria	4.0%	10.0%	3.0%	-0.5%	0.9%	10.1%	6.0%	-1.0%	-4.5%	-3.1%	6.1%	30	7	7	8	4	2
	Belgium	0.5%	-3.2%	0.2%	-2.3%	6.0%	4.8%	-3.7%	-0.4%	-2.8%	5.5%	4.3%	50	4	10	17	11	7
	Denmark	1.5%	-16.0%	4.8%	-0.9%	2.1%	9.6%	-17.6%	3.2%	-2.5%	0.6%	8.0%	39	5	9	6	8	10
	Finland	5.2%	-1.0%	10.5%	4.6%	9.1%	-1.1%	-6.2%	5.3%	-0.6%	3.9%	-6.3%	46	5	9	13	11	6
	France	5.0%	7.3%	6.1%	2.0%	7.2%	4.5%	2.3%	1.0%	-3.0%	2.2%	-0.5%	170	30	45	41	32	20
	Germany	4.1%	1.3%	0.0%	4.9%	10.2%	11.4%	-2.8%	-4.1%	0.8%	6.1%	7.3%	172	40	45	42	27	17
	Greece	23.8%	67.8%	6.6%	12.6%	17.2%	13.8%	43.9%	-17.3%	-11.2%	-6.7%	-10.0%	22	5	3	5	6	3
	Ireland	-1.6%	-9.4%	0.7%	-16.8%	10.2%	8.6%	-7.8%	2.3%	-15.3%	11.8%	10.2%	22	4	6	4	4	4
	Italy	1.4%	1.8%	-0.3%	0.0%	2.8%	6.1%	0.4%	-1.7%	-1.4%	1.4%	4.7%	91	16	21	16	22	15
	Luxembourg	4.3%	-12.0%	14.1%	3.2%	-0.2%	11.1%	-16.3%	9.8%	-1.1%	-4.5%	6.8%	17	2	4	6	2	1
	Netherlands	4.4%	-2.5%	7.4%	6.2%	7.0%	6.3%	-6.9%	3.0%	1.8%	2.6%	1.9%	69	9	12	17	17	13
	Norway	-0.7%	-12.4%	-2.7%	-1.6%	4.8%	1.8%	-11.7%	-2.0%	-0.9%	5.5%	2.5%	50	6	6	8	13	15
	Spain	-0.4%	-4.8%	-1.0%	0.0%	3.5%	-0.2%	-4.3%	-0.5%	0.5%	4.0%	0.2%	72	12	17	18	16	7
	Sweden	7.9%	16.4%	6.4%	3.9%	5.5%	11.5%	8.4%	-1.5%	-4.1%	-2.5%	3.5%	127	7	10	24	42	42
	Switzerland	6.1%	11.0%	3.1%	6.4%	4.5%	10.1%	4.9%	-3.1%	0.3%	-1.6%	4.0%	119	12	27	31	30	18
	United Kingdom	2.5%	-7.2%	4.0%	4.3%	2.9%	6.5%	-9.6%	1.5%	1.8%	0.5%	4.1%	371	48	66	84	96	75
	Australia	5.5%	-2.2%	4.8%	5.0%	3.8%	9.3%	-7.7%	-0.8%	-0.5%	-1.7%	3.8%	210	20	27	45	45	72
	Hong Kong	-4.3%	-8.8%	-2.8%	-6.0%	-3.2%	-0.7%	-4.5%	1.5%	-1.7%	1.2%	3.6%	283	48	58	66	58	52
	Japan	-3.0%	-1.7%	-3.3%	-3.9%	-1.9%	-4.6%	1.3%	-0.3%	-0.9%	1.1%	-1.6%	932	118	221	254	211	126
New Zealand	8.0%	0.0%	5.9%	1.6%	5.8%	10.8%	0.0%	-2.1%	-6.4%	-2.2%	2.8%	37	0	4	6	11	15	
Singapore	2.1%	-3.7%	-1.0%	3.1%	7.1%	-6.0%	-5.9%	-3.1%	1.0%	5.0%	-8.1%	91	9	24	26	25	6	
South Korea	-4.3%	-6.7%	-4.8%	-2.8%	-1.8%	-5.3%	-2.4%	-0.6%	1.5%	2.5%	-1.1%	263	42	70	54	57	38	
Taiwan	1.2%	-2.6%	0.1%	-0.4%	0.4%	4.2%	-3.8%	-1.1%	-1.6%	-0.8%	3.0%	219	20	34	48	58	57	
South Africa	3.1%	0.0%	1.8%	-0.8%	4.0%	11.7%	-3.1%	-1.4%	-3.9%	0.9%	8.6%	85	25	23	15	7	14	
GICs Sector Analysis	Communication Services	2.2%	1.9%	2.2%	0.0%	4.4%	2.5%	-0.3%	0.0%	-2.1%	2.2%	0.4%	206	16	37	50	55	46
	Consumer Discretionary	-0.4%	-2.5%	-1.5%	-1.1%	0.6%	2.6%	-2.1%	-1.2%	-0.7%	0.9%	3.0%	545	61	124	130	120	108
	Consumer Staples	-2.1%	-0.2%	-0.1%	-3.5%	-3.1%	-2.2%	1.9%	2.0%	-1.4%	-1.0%	-0.1%	284	39	54	62	72	55
	Energy	-5.4%	-14.9%	-10.2%	-6.6%	-1.0%	-2.1%	-9.5%	-4.8%	-1.3%	4.4%	3.2%	129	8	23	32	36	28
	Financials	1.7%	-1.1%	1.0%	2.3%	3.1%	4.3%	-2.9%	-0.7%	0.6%	1.4%	2.5%	432	105	94	84	78	69
	Health Care	-1.5%	-5.6%	-1.5%	-4.4%	0.2%	2.1%	-4.1%	0.0%	-2.9%	1.7%	3.6%	272	22	47	73	80	48
	Industrials	1.7%	-0.5%	-0.6%	1.8%	2.1%	5.5%	-2.1%	-2.2%	0.1%	0.4%	3.9%	754	94	170	176	168	144
	Information Technology	2.8%	2.0%	0.5%	0.7%	4.9%	5.9%	-0.8%	-2.3%	-2.1%	2.1%	3.0%	376	55	73	91	89	67
	Materials	1.1%	-3.0%	2.4%	0.3%	0.7%	3.6%	-4.0%	1.3%	-0.7%	-0.4%	2.5%	347	40	65	82	85	74
	Real Estate	1.3%	-3.3%	0.9%	0.9%	2.8%	4.6%	-4.6%	-0.4%	-0.4%	1.6%	3.4%	361	63	75	89	77	56
Utilities	0.5%	-3.3%	0.4%	1.2%	2.7%	1.0%	-3.7%	0.0%	0.7%	2.2%	0.5%	125	21	34	29	20	20	
Size/Style	Large (6000M+ USD)	1.5%	-2.3%	-0.6%	-0.2%	2.5%	4.7%	-3.8%	-2.1%	-1.6%	1.0%	3.2%	895	57	162	215	266	193
	Mid (2000M-6000M)	0.7%	-0.2%	-0.7%	0.1%	1.0%	3.4%	-0.9%	-1.3%	-0.6%	0.3%	2.7%	984	122	201	242	230	188
	Small (500M-2000M)	0.3%	-1.8%	0.1%	-0.3%	1.4%	2.6%	-2.1%	-0.2%	-0.6%	1.0%	2.2%	1954	347	436	444	389	337
	Micro (0-500M)	1.3%	-0.5%	0.1%	1.2%	3.0%	6.0%	-1.8%	-1.3%	-0.1%	1.6%	4.7%	3946	1175	920	773	577	500
	Value (< Median MVIC)	-0.2%	-1.7%	-0.6%	-0.6%	0.6%	3.3%	-1.5%	-0.4%	-0.4%	0.8%	3.5%	1665	308	406	421	340	189
	Growth (>= Median MVIC)	1.4%	-1.0%	0.0%	0.3%	2.2%	3.4%	-2.3%	-1.4%	-1.0%	0.8%	2.0%	2168	218	393	480	546	530

AFG Research Database: Price Momentum [Global Quintile By GICS Sector] from 3/31/19 to 6/30/19
 International Analysis | All Sectors | 500M+ USD*
 United States Analysis | All Sectors | 500M+ USD*

*Size Tiers and US Indices include all firms that meet the market cap or index criteria.

	Earnings Quality 2019 Q2	Returns						Return Spreads					Counts					
		Uni	F	D	C	B	A	F	D	C	B	A	Uni	F	D	C	B	A
	AFG Global Database	0.8%	1.0%	0.9%	0.9%	1.2%	0.0%	0.1%	0.1%	0.0%	0.3%	-0.8%	4640	836	983	1060	1015	744
	North America	1.6%	1.2%	2.1%	1.8%	2.9%	-0.2%	-0.4%	0.5%	0.2%	1.3%	-1.8%	1727	373	333	344	370	306
	Europe	4.0%	5.5%	5.0%	3.9%	3.4%	2.4%	1.5%	0.9%	-0.1%	-0.6%	-1.6%	1131	187	253	260	254	176
	Asia	-2.1%	-2.4%	-2.6%	-1.8%	-2.0%	-1.9%	-0.2%	-0.5%	0.3%	0.1%	0.2%	1724	271	380	440	379	253
	AFG US Database	1.8%	1.5%	2.3%	1.7%	3.2%	-0.2%	-0.2%	0.5%	0.0%	1.5%	-2.0%	1544	319	286	304	345	287
GICs Sector Analysis	Communication Services	-0.8%	-1.4%	2.0%	-0.7%	-2.3%	-4.0%	-0.6%	2.8%	0.1%	-1.5%	-3.2%	85	13	15	24	24	8
	Consumer Discretionary	0.4%	1.9%	0.8%	3.5%	1.3%	-4.8%	1.5%	0.4%	3.1%	0.9%	-5.2%	223	38	31	50	50	52
	Consumer Staples	0.7%	-0.5%	3.0%	3.2%	2.7%	-4.0%	-1.3%	2.3%	2.4%	1.9%	-4.8%	79	13	11	17	18	17
	Energy	-8.9%	-9.2%	-7.0%	-11.1%	-1.9%	-15.1%	-0.3%	1.9%	-2.2%	7.0%	-6.3%	146	38	30	39	21	16
	Financials																	
	Health Care	2.3%	2.6%	3.3%	3.2%	0.7%	1.7%	0.3%	1.0%	0.9%	-1.6%	-0.7%	236	49	53	37	52	44
	Industrials	7.8%	9.8%	7.4%	6.4%	8.6%	6.2%	2.0%	-0.5%	-1.4%	0.7%	-1.6%	304	59	56	48	83	57
	Information Technology	1.8%	1.8%	2.4%	2.4%	1.8%	0.6%	0.1%	0.6%	0.7%	0.1%	-1.2%	291	82	48	44	59	56
	Materials	1.3%	-1.5%	-2.9%	2.1%	5.7%	2.1%	-2.8%	-4.2%	0.8%	4.4%	0.8%	96	17	14	20	21	23
	Real Estate																	
Utilities	4.3%	2.6%	4.2%	5.2%	2.1%	5.6%	-1.8%	-0.1%	0.8%	-2.2%	1.3%	66	7	21	19	11	7	
Size/Style	Large (6000M+ USD)	4.0%	5.4%	2.5%	4.8%	4.2%	3.3%	1.4%	-1.5%	0.7%	0.2%	-0.8%	541	93	117	116	132	82
	Mid (2000M-6000M)	1.8%	2.9%	4.5%	0.6%	3.7%	-3.3%	1.2%	2.8%	-1.2%	2.0%	-5.1%	443	97	72	91	104	77
	Small (500M-2000M)	-0.5%	-2.4%	0.3%	-0.7%	1.1%	-0.6%	-1.8%	0.8%	-0.1%	1.6%	0.0%	560	128	97	97	109	128
	Micro (0-500M)	-8.2%	-11.3%	-11.1%	-1.3%	-6.2%	-8.6%	-3.1%	-2.9%	6.9%	2.0%	-0.4%	592	129	94	76	95	197
	Value (< Median MVIC)	-0.9%	-2.8%	-1.1%	0.3%	2.0%	-4.6%	-1.9%	-0.2%	1.2%	2.9%	-3.7%	600	107	82	123	170	115
	Growth (>= Median MVIC)	3.5%	3.8%	3.8%	2.7%	4.2%	2.7%	0.3%	0.3%	-0.8%	0.7%	-0.8%	941	211	203	180	174	172
Indices	Russell 1000 @ Index	3.1%	3.5%	3.2%	3.8%	4.1%	0.1%	0.3%	0.1%	0.6%	1.0%	-3.0%	715	115	139	156	182	121
	Russell 2000 @ Index	-1.8%	-2.0%	-2.2%	-0.7%	2.8%	-5.8%	-0.2%	-0.4%	1.1%	4.6%	-4.0%	1170	267	210	194	223	274
	S&P 500 @ Index	3.5%	4.3%	3.2%	4.4%	3.3%	2.3%	0.7%	-0.3%	0.9%	-0.2%	-1.3%	396	57	83	90	96	69
	ADR Universe	0.0%	0.5%	-1.4%	-0.5%	0.7%	-0.2%	0.5%	-1.4%	-0.5%	0.7%	-0.2%	521	108	76	76	107	153
	AFG International Database	0.3%	0.6%	0.3%	0.5%	0.1%	-0.1%	0.2%	0.0%	0.2%	-0.2%	-0.4%	3096	517	697	755	669	457
Country Analysis	Canada	0.2%	-0.4%	0.2%	3.3%	-2.7%	0.2%	-0.6%	0.1%	3.1%	-2.8%	0.0%	183	53	47	39	24	19
	Austria	4.0%	5.8%	8.0%	6.8%	1.1%	-7.8%	1.8%	4.0%	2.8%	-2.9%	-11.8%	21	3	3	2	10	1
	Belgium	0.0%	-8.6%	1.4%	0.2%	-5.9%	18.8%	-8.6%	1.4%	0.2%	-5.9%	18.8%	32	6	8	8	6	3
	Denmark	1.5%	3.3%	-1.3%	-1.5%	4.9%	7.8%	1.7%	-2.8%	-3.0%	3.4%	6.3%	32	7	5	11	3	4
	Finland	5.1%	12.0%	2.6%	2.7%	2.8%	6.0%	6.8%	-2.5%	-2.5%	-2.3%	0.8%	44	6	7	11	10	9
	France	5.0%	9.6%	7.7%	3.8%	4.6%	1.0%	4.6%	2.7%	-1.3%	-0.5%	-4.0%	137	14	34	30	34	22
	Germany	4.9%	6.2%	2.5%	6.3%	5.4%	5.5%	1.4%	-2.3%	1.4%	0.6%	0.7%	140	21	36	34	25	22
	Greece	15.6%	13.7%	19.3%	12.7%	15.1%	26.2%	-1.9%	3.7%	-2.9%	-0.4%	10.7%	17	4	1	4	4	3
	Ireland	-2.6%	-15.7%	6.6%	-13.3%	1.9%	-28.6%	-13.1%	9.2%	-10.7%	4.5%	-26.1%	16	3	7	1	3	1
	Italy	2.8%	2.3%	0.5%	3.5%	2.0%	6.0%	-0.5%	-2.3%	0.7%	-0.8%	3.2%	66	10	9	15	22	8
	Luxembourg	3.2%	32.1%	-5.5%	-0.7%	5.2%	-7.0%	28.9%	-8.7%	-3.8%	2.0%	-10.1%	16	1	4	3	5	2
	Netherlands	5.6%	-0.8%	4.8%	3.8%	6.5%	9.6%	-6.4%	-0.7%	-1.7%	1.0%	4.0%	56	9	11	6	17	12
	Norway	-2.3%	7.3%	6.5%	-5.8%	-7.4%	-12.1%	9.6%	8.8%	-3.5%	-5.1%	-9.8%	35	6	9	6	9	3
	Spain	-0.3%	9.6%	2.4%	-3.1%	-1.0%	-1.3%	9.8%	2.7%	-2.8%	-0.7%	-1.1%	54	3	7	9	21	13
	Sweden	8.7%	11.3%	8.8%	10.0%	7.3%	4.7%	2.6%	0.1%	1.3%	-1.4%	-4.0%	100	22	27	26	11	12
	Switzerland	6.7%	9.6%	8.1%	7.9%	5.1%	3.4%	2.8%	1.4%	1.2%	-1.7%	-3.3%	86	10	21	22	19	12
	United Kingdom	2.4%	1.7%	4.2%	2.5%	4.7%	-2.0%	-0.7%	1.8%	0.1%	2.3%	-4.4%	274	57	57	67	50	43
	Australia	5.6%	7.3%	1.7%	7.8%	5.7%	4.0%	1.7%	-3.9%	2.2%	0.1%	-1.6%	154	40	28	32	34	19
	Hong Kong	-4.3%	-2.2%	-5.9%	-3.9%	-3.7%	-6.7%	2.0%	-1.7%	0.3%	0.6%	-2.5%	249	73	61	46	32	35
	Japan	-3.2%	-2.8%	-3.5%	-3.3%	-3.7%	-2.1%	0.4%	-0.3%	-0.1%	-0.5%	1.1%	807	75	173	241	206	112
New Zealand	6.8%	10.2%	-3.5%	8.2%	12.5%	9.9%	3.4%	-10.3%	1.5%	5.7%	3.2%	30	2	6	12	4	4	
Singapore	-1.3%	-4.2%	-0.2%	1.6%	-0.5%	-3.8%	-3.0%	1.1%	2.8%	0.7%	-2.5%	45	7	7	12	7	10	
South Korea	-4.9%	-12.8%	-2.0%	-4.1%	-2.7%	-4.7%	-7.9%	2.8%	0.8%	2.2%	0.2%	236	42	59	46	45	43	
Taiwan	0.9%	-0.4%	2.4%	-0.1%	-0.4%	3.6%	-1.3%	1.5%	-1.0%	-1.3%	2.7%	201	30	44	48	49	29	
South Africa	2.0%	-4.0%	0.5%	6.3%	1.8%	1.6%	-6.0%	-1.5%	4.3%	-0.3%	-0.4%	57	5	16	16	11	8	
GICs Sector Analysis	Communication Services	1.6%	-0.9%	1.7%	2.9%	1.7%	1.8%	-2.5%	0.1%	1.3%	0.1%	0.2%	211	31	49	55	47	29
	Consumer Discretionary	-0.3%	0.5%	0.2%	-0.9%	-1.6%	0.5%	0.9%	0.5%	-0.6%	-1.2%	0.9%	541	100	126	129	113	72
	Consumer Staples	-2.3%	-3.5%	-2.1%	-0.5%	-2.6%	-3.9%	-1.2%	0.2%	1.8%	-0.3%	-1.6%	282	47	61	68	61	43
	Energy	-5.4%	-8.9%	-4.4%	-8.0%	-3.2%	-3.7%	-3.5%	1.0%	-2.6%	2.2%	1.7%	130	19	39	25	24	22
	Financials																	
	Health Care	-1.9%	-5.6%	-0.9%	-2.5%	0.9%	-3.4%	-3.7%	1.0%	-0.6%	2.8%	-1.5%	274	41	66	77	58	29
	Industrials	1.6%	3.5%	1.0%	1.1%	1.4%	1.5%	1.9%	-0.6%	-0.6%	-0.2%	-0.2%	739	133	160	175	156	114
	Information Technology	2.7%	6.8%	2.4%	2.4%	0.4%	3.6%	4.1%	-0.4%	-0.4%	-2.4%	0.8%	369	56	91	96	75	51
	Materials	1.1%	1.5%	-1.2%	3.3%	2.1%	-0.9%	0.4%	-2.3%	2.3%	1.0%	-2.0%	346	54	70	84	83	53
	Real Estate																	
Utilities	0.3%	-0.6%	5.1%	0.5%	0.7%	-2.0%	-0.8%	4.8%	0.3%	0.4%	-2.3%	121	20	16	25	31	28	
Size/Style	Large (6000M+ USD)	1.4%	2.4%	0.5%	2.3%	1.5%	-0.1%	1.1%	-0.9%	0.9%	0.1%	-1.5%	693	80	150	186	180	95
	Mid (2000M-6000M)	0.2%	1.3%	-0.4%	0.3%	0.2%	-0.4%	1.1%	-0.6%	0.1%	0.0%	-0.6%	787	124	169	222	168	104
	Small (500M-2000M)	-0.1%	-0.2%	0.5%	-0.3%	-0.7%	0.1%	-0.2%	0.6%	-0.2%	-0.6%	0.2%	1615	312	378	347	320	257
	Micro (0-500M)	0.9%	-0.8%	3.1%	-0.4%	1.1%	1.6%	-1.7%	2.2%	-1.3%	0.2%	0.7%	3598	797	711	656	650	783
	Value (< Median MVIC)	-0.4%	-1.6%	-1.2%	0.1%	-0.3%	0.3%	-1.1%	-0.8%	0.5%	0.2%	0.7%	1304	152	266	362	333	190
	Growth (>= Median MVIC)	0.8%	1.4%	1.2%	0.9%	0.5%	-0.3%	0.6%	0.4%	0.1%	-0.3%	-1.1%	1791	364	430	393	336	266

AFG Research Database: Earnings Quality [Global Quintile By GICS Sector] from 3/31/19 to 6/30/19
 International Analysis | All Sectors | 500M+ USD*
 United States Analysis | All Sectors | 500M+ USD*

*Size Tiers and US Indices include all firms that meet the market cap or index criteria.

	Management Quality 2019 Q2	Returns					Return Spreads					Counts						
		Uni	F	D	C	B	A	F	D	C	B	A	Uni	F	D	C	B	A
	AFG Global Database	1.3%	0.0%				1.9%	-1.3%				0.6%	5942	1878				4064
	North America	2.3%	1.7%				2.6%	-0.6%				0.2%	2309	596				1713
	Europe	3.8%	3.2%				4.0%	-0.6%				0.2%	1487	435				1052
	Asia	-1.7%	-2.9%				-1.0%	-1.2%				0.8%	2059	822				1236
	AFG US Database	2.5%	2.1%				2.6%	-0.4%				0.1%	2064	486				1577
GICs Sector Analysis	Communication Services	-0.8%	3.5%				-3.7%	4.3%				-2.8%	85	33				51
	Consumer Discretionary	0.8%	-0.3%				1.0%	-1.1%				0.2%	239	30				209
	Consumer Staples	0.7%	10.5%				-2.0%	9.8%				-2.7%	79	17				61
	Energy	-8.8%	-12.7%				-7.2%	-3.9%				1.6%	146	42				103
	Financials	6.3%	9.4%				6.1%	3.1%				-0.2%	340	25				314
	Health Care	2.3%	2.1%				2.4%	-0.2%				0.2%	243	100				143
	Industrials	7.7%	7.8%				7.7%	0.1%				0.0%	309	69				239
	Information Technology	2.1%	1.4%				2.6%	-0.7%				0.5%	295	106				189
	Materials	1.4%	-0.2%				1.8%	-1.6%				0.4%	97	20				77
	Real Estate	0.8%	0.6%				0.8%	-0.2%				0.0%	162	12				150
Utilities	4.3%	4.4%				4.1%	0.1%				-0.2%	66	28				38	
Size/Style	Large (6000M+ USD)	4.3%	6.3%				3.9%	1.9%				-0.4%	693	117				575
	Mid (2000M-6000M)	2.2%	1.6%				2.4%	-0.6%				0.2%	605	144				460
	Small (500M-2000M)	1.0%	0.0%				1.4%	-1.0%				0.4%	766	224				541
	Micro (0-500M)	-5.7%	-6.9%				-5.0%	-1.3%				0.6%	764	271				492
	Value (< Median MVIC)	0.7%	-0.2%				1.0%	-0.9%				0.4%	818	243				575
	Growth (>= Median MVIC)	3.7%	4.4%				3.6%	0.7%				-0.2%	1242	241				1001
Indices	Russell 1000 @ Index	3.5%	3.3%				3.6%	-0.2%				0.0%	946	161				785
	Russell 2000 @ Index	-0.3%	-0.3%				-0.2%	-0.1%				0.0%	1576	497				1079
	S&P 500 @ Index	4.0%	6.5%				3.6%	2.5%				-0.4%	499	62				436
	ADR Universe	0.4%	-2.0%				1.5%	-2.4%				1.1%	612	190				422
	AFG International Database	0.6%	-0.7%				1.4%	-1.4%			0.8%	3878	1391				2487	
Country Analysis	Canada	0.9%	-0.1%				1.7%	-1.0%				0.8%	245	109				135
	Austria	4.0%	5.0%				2.7%	1.0%				-1.2%	30	14				16
	Belgium	0.7%	-2.5%				2.2%	-3.2%				1.5%	51	15				36
	Denmark	1.6%	6.0%				1.1%	4.5%				-0.5%	40	4				35
	Finland	5.6%	3.3%				6.1%	-2.3%				0.5%	47	9				37
	France	5.0%	5.3%				4.9%	0.3%				-0.1%	168	61				107
	Germany	3.9%	2.4%				4.5%	-1.4%				0.7%	173	57				116
	Greece	23.8%	13.4%				31.2%	-10.5%				7.3%	22	9				13
	Ireland	-1.6%	1.5%				-2.7%	3.0%				-1.1%	22	7				15
	Italy	1.5%	3.5%				0.6%	2.0%				-0.9%	91	28				63
	Luxembourg	4.3%	-1.0%				8.9%	-5.3%				4.6%	17	9				7
	Netherlands	4.4%	2.0%				5.0%	-2.4%				0.7%	69	18				51
	Norway	-0.9%	-0.4%				-1.4%	0.5%				-0.6%	50	21				29
	Spain	-0.4%	3.1%				-2.0%	3.6%				-1.6%	70	22				48
	Sweden	7.9%	7.8%				7.8%	-0.1%				-0.1%	128	28				100
	Switzerland	6.3%	7.8%				6.1%	1.5%				-0.3%	120	18				102
	United Kingdom	2.5%	1.2%				2.9%	-1.3%				0.4%	383	111				272
	Australia	5.4%	3.0%				6.4%	-2.4%				1.0%	211	62				149
	Hong Kong	-4.3%	-5.2%				-3.6%	-0.9%				0.8%	305	143				162
	Japan	-3.2%	-3.9%				-2.6%	-0.7%				0.6%	931	402				528
New Zealand	8.0%	11.3%				6.1%	3.3%				-1.9%	37	13				23	
Singapore	2.2%	3.5%				1.5%	1.3%				-0.7%	90	30				59	
South Korea	-4.4%	-4.9%				-4.0%	-0.5%				0.4%	264	114				150	
Taiwan	1.3%	1.3%				1.2%	0.1%				0.0%	220	56				163	
South Africa	3.1%	2.9%				3.1%	-0.2%				0.0%	87	24				63	
GICs Sector Analysis	Communication Services	1.6%	1.4%				1.7%	-0.2%				0.1%	212	72				140
	Consumer Discretionary	-0.4%	-2.1%				0.4%	-1.7%				0.8%	551	176				374
	Consumer Staples	-2.4%	-4.1%				-1.6%	-1.7%				0.8%	282	88				194
	Energy	-5.4%	-6.6%				-4.4%	-1.3%				1.0%	130	55				75
	Financials	1.7%	-2.1%				3.2%	-3.9%				1.4%	432	115				317
	Health Care	-1.7%	-4.3%				-0.7%	-2.5%				1.0%	276	80				195
	Industrials	1.6%	0.2%				2.4%	-1.5%				0.8%	759	267				492
	Information Technology	2.9%	1.7%				3.4%	-1.2%				0.5%	380	103				276
	Materials	1.0%	-0.1%				1.9%	-1.1%				0.9%	348	157				190
	Real Estate	1.3%	1.4%				1.2%	0.1%				-0.1%	362	195				166
Utilities	0.5%	-0.6%				1.9%	-1.1%				1.5%	125	69				56	
Size/Style	Large (6000M+ USD)	1.5%	-0.3%				2.3%	-1.8%				0.7%	904	252				651
	Mid (2000M-6000M)	0.6%	-0.9%				1.5%	-1.5%				0.9%	999	361				638
	Small (500M-2000M)	0.2%	-0.8%				0.9%	-1.0%				0.7%	1974	777				1197
	Micro (0-500M)	1.2%	0.0%				2.0%	-1.2%				0.7%	4005	1493				2512
	Value (< Median MVIC)	-0.2%	-0.6%				0.2%	-0.4%				0.5%	1673	897				776
	Growth (>= Median MVIC)	1.3%	-0.9%				2.0%	-2.2%				0.7%	2204	494				1710

AFG Research Database: Management Quality [Global Quintile By GICS Sector] from 3/31/19 to 6/30/19

International Analysis | All Sectors | 500M+ USD*

United States Analysis | All Sectors | 500M+ USD*

*Size Tiers and US Indices include all firms that meet the market cap or index criteria.

2019 Q2 Return Trends	Market Weight			Equal Weight			Company Analysis		
	3/29-5/15	5/15-6/28	Q2 Total	3/29-5/15	5/15-6/28	Q2 Total	Mkt Cap (\$B)	Biggest Contributors	% Due to Top 5
Communication Services	4.3%	-0.2%	4.1%	2.8%	-4.8%	-2.0%	2921	FB (15.8%), GOOGL (-8.0%), DIS (25.8%), T (8.6%), CMCSA (6.3%)	69.1%
Consumer Discretionary	1.7%	2.6%	4.3%	-0.7%	-1.6%	-2.1%	3319	AMZN (6.3%), HD (9.1%), MCD (10.0%), SBUX (13.3%), TSLA (-20.2%)	64.3%
Consumer Staples	2.1%	1.9%	4.1%	0.9%	-3.2%	-2.0%	2209	WMT (13.9%), KO (9.5%), MO (-16.3%), PG (6.1%), PM (-9.8%)	47.9%
Energy	-3.3%	-0.8%	-4.1%	-5.6%	-9.6%	-14.3%	1514	XOM (-4.1%), APC (55.8%), OXY (-22.8%), COP (-8.2%), HAL (-21.8%)	40.0%
Financials	3.9%	3.5%	7.5%	3.3%	2.1%	5.5%	4115	JPM (11.3%), BRKB (6.1%), C (13.3%), BAC (5.7%), AXP (13.3%)	37.0%
Health Care	-4.3%	5.8%	1.2%	-3.9%	0.5%	-2.7%	4240	LLY (-14.1%), REGN (-23.8%), ABBV (-8.6%), MDT (6.9%), ILMN (18.5%)	-44.9%
Industrials	0.6%	4.0%	4.6%	2.9%	3.0%	6.2%	3071	MMM (-15.9%), LMT (21.9%), HON (10.4%), NOC (20.4%), BA (-4.0%)	8.4%
Information Technology	2.0%	3.4%	5.4%	1.7%	1.2%	3.0%	6442	MSFT (14.0%), AAPL (4.6%), V (11.3%), MA (12.5%), INTC (-10.3%)	60.6%
Materials	-3.6%	8.8%	4.9%	-2.1%	3.3%	0.9%	903	LIN (14.7%), APD (19.2%), ECL (12.1%), BLL (21.3%), SHW (6.7%)	79.1%
Real Estate	0.9%	0.9%	1.7%	1.5%	-0.5%	1.1%	1208	SPG (-11.3%), PLD (12.1%), EQIX (11.8%), AMT (4.7%), PSA (10.3%)	54.7%
Utilities	-0.1%	3.6%	3.5%	0.8%	3.8%	4.7%	935	NEE (6.6%), SO (8.2%), SRE (9.2%), PCG (28.8%), AEP (5.9%)	56.5%
All Sectors	0.9%	3.1%	4.0%	0.3%	0.2%	0.8%	30877	MSFT (14.0%), FB (15.8%), GOOGL (-8.0%), AMZN (6.3%), DIS (25.8%)	18.8%

AFG Research Database – Russell 3000 Sector Analysis: AFG Data as of 6/28/19. Market Cap and Market Weight data based on Market Cap data as of 3/29/19 & 5/15/19

US Markets, based on Russell 3000 constituent market cap weights, appreciated by 4% in 2019 Q2, with appreciation across all sectors except Energy. Equal-weighted returns were milder at 0.8% in the quarter, with average losses observed in Communication Services, Consumer Discretionary, Consumer Staples, Energy, and Health Care.

Stock performance for MSFT, FB, GOOGL, AMZN, and DIS accounted for nearly 19% of the overall market gain in Q2 on a market-cap weighted basis. Ignoring the impact of the drop in GOOGL's share price, the remaining four stocks accounted for more than 24% of the market-cap weighted gain last quarter. Top five contributors accounted for at least half of market gains in Communication Services, Consumer Discretionary, Information Technology, Materials, Real Estate, and Utilities. While Health Care stocks were up on a market-cap weighted basis, large losses by LLY, REGN, and ABBV dragged on sector performance, while equal-weight performance was negative due to larger losses by small cap names, as well.

The tables below highlight top and bottom performing industries on a market-cap weighted basis. Top performing industries appreciated by more than 10% in Q2, while worst performing industries declined by more than -3%.

2019 Q2 Return Trends		Q2 Returns		Company Analysis	
Sector	Industry	Market	Equal	Market Cap (\$B)	Biggest Contributors
Communication	Movies/Ent	11.8%	-12.4%	383	DIS (25.8%), NFLX (3.0%), WWE (-16.7%), VIAB (7.1%), LGF.A (-21.7%)
Communication	Advertising	10.1%	10.4%	29	OMC (13.2%), IPG (8.7%), CCO (-11.8%), CDLX (57.1%), TTGT (30.6%)
Discretionary	Specialized Cons Serv	18.0%	13.9%	26	SCI (17.0%), HRB (23.5%), BID (54.0%), FTDR (26.5%), SERV (11.5%)
Financials	Multi-line Insurance	16.8%	9.7%	77	AIG (24.5%), HIG (12.7%), AIZ (12.8%), AFG (8.6%), HMN (15.2%)
Financials	Financial Exchanges & Data	13.6%	12.6%	256	CME (18.4%), ICE (13.2%), SPGI (8.5%), MSCI (20.4%), MKTX (30.9%)
Financials	Reinsurance	12.6%	3.1%	44	RE (15.1%), RNR (24.3%), Y (11.2%), RGA (10.3%), GLRE (-21.9%)
Financials	Consumer Finance	11.3%	9.0%	231	AXP (13.3%), COF (11.6%), DFS (9.6%), SYF (9.3%), ALLY (13.4%)
Financials	Insurance Brokers	10.9%	18.3%	137	AON (13.3%), MMC (6.7%), WLTW (9.4%), AJG (12.7%), BRO (13.8%)
Financials	Property/Casualty Ins	10.9%	8.1%	338	PGR (11.0%), ERIE (43.2%), CB (5.7%), TRV (9.6%), CINF (21.3%)
Financials	Life/Health Ins	10.9%	6.2%	188	MET (17.8%), PRU (11.1%), AFL (10.2%), PFG (16.6%), LNC (10.5%)
Health Care	Health Care Tech	20.8%	5.4%	63	CERN (28.4%), VEEV (27.8%), MDSO (23.6%), TDOC (19.4%), EVH (-36.8%)
Industrials	Dvsfd Support Serv	17.8%	4.5%	53	CTAS (17.4%), CPRT (23.4%), KAR (29.6%), UNF (22.9%), VVI (17.9%)
Industrials	Research/Cons Serv	11.6%	5.2%	109	INFO (17.2%), CSGP (18.8%), VRSK (10.3%), EFX (14.5%), TRU (10.1%)
Industrials	Building Products	10.3%	9.9%	125	JCI (12.6%), ALLE (22.2%), FBHS (20.5%), OC (23.5%), AOS (-11.2%)
Materials	Industrial Gases	16.0%	16.9%	138	LIN (14.7%), APD (19.2%)
Materials	Constrx Materials	15.2%	14.9%	35	VMC (16.3%), MLM (14.6%), EXP (10.2%), SUM (21.3%), USCR (20.0%)
Materials	Metal/Glass Containers	12.7%	8.0%	52	BLL (21.3%), ATR (17.3%), ARD (35.9%), CCK (12.0%), GEF (-20.1%)
Materials	Gold	10.9%	4.1%	26	NEM (10.7%), RGLD (13.0%), CDE (6.4%), GORO (-13.9%)
Real Estate	Industrial REITs	10.0%	11.5%	84	PLD (12.1%), REXR (13.3%), DRE (4.1%), TRNO (16.7%), IIPR (52.0%)
Staples	Hypermarkets/Centers	12.4%	1.6%	395	WMT (13.9%), COST (9.4%), PSMT (-13.2%), BJ (-3.7%)

2019 Q2 Return Trends		Q2 Returns		Company Analysis	
Sector	Industry	Market	Equal	Market Cap (\$B)	Biggest Contributors
Discretionary	Department Stores	-22.5%	-20.7%	28	KSS (-29.9%), JWN (-27.4%), M (-9.1%), DDS (-13.4%), JCP (-23.5%)
Discretionary	Specialty Stores	-4.8%	-15.1%	70	TSCO (11.7%), TIF (-10.7%), ODP (-42.5%), SBH (-27.5%), SIG (-33.2%)
Discretionary	Apparel Retail	-4.1%	-18.2%	157	GPS (-30.7%), ROST (6.7%), FL (-30.4%), BURL (8.6%), AEO (-23.3%)
Energy	Oil & Gas Drilling	-16.8%	-27.3%	19	RIG (-26.4%), PTEN (-17.6%), HP (-7.8%), NE (-34.8%), DO (-15.4%)
Energy	Oil/Gas Equip/Serv	-12.3%	-20.8%	164	HAL (-21.8%), SLB (-7.5%), BHGE (-10.5%), NOV (-16.4%), RES (-36.5%)
Energy	Oil/Gas Expl/Prod	-4.5%	-18.2%	400	APC (55.8%), COP (-8.2%), APA (-15.8%), MRO (-14.7%), CXO (-6.9%)
Energy	Integrated Oil & Gas	-3.3%	-15.6%	627	XOM (-4.1%), OXY (-22.8%), CVX (2.0%), UNT (-37.6%)
Health Care	Biotechnology	-3.5%	-4.0%	868	REGN (-23.8%), ABBV (-8.6%), ARRY (90.0%), GILD (4.9%), EXAS (36.3%)
Industrials	Air Freight/Logistics	-5.9%	-3.6%	181	UPS (-6.7%), FDX (-9.1%), XPO (7.6%), CHRW (-2.4%), FWRD (-8.3%)
Materials	Dvsfd Chem	-10.5%	-19.3%	22	CC (-34.7%), HUN (-8.3%), EMN (3.5%), LXU (-37.5%)
Materials	Copper	-4.3%	-5.3%	49	FCX (-9.6%), SCCO (-1.0%)
Materials	Steel	-3.8%	-3.1%	53	STLD (-13.7%), NUE (-4.9%), X (-21.2%), RS (5.5%), CLF (7.3%)
Real Estate	Retail REITs	-6.4%	-3.2%	190	SPG (-11.3%), BPR (-6.1%), MAC (-21.3%), O (-5.3%), FRT (-5.9%)
Real Estate	Hotel & Resort REITs	-3.3%	-4.0%	54	PK (-9.9%), HST (-2.5%), PEB (-8.0%), AHT (-36.2%), SHO (-4.4%)
Real Estate	Real Estate Services	-3.2%	-10.8%	37	CBRE (3.7%), JLL (-8.5%), RLYG (-35.8%), MMI (-24.3%), RDFN (-11.3%)
Real Estate	Office REITs	-3.1%	-2.1%	113	SLG (-9.7%), BXP (-2.9%), HIW (-10.8%), VNO (-4.0%), BDN (-8.6%)
Staples	Drug Retail	-13.1%	-24.9%	60	WBA (-12.9%), RAD (-36.9%)
Staples	Tobacco	-12.4%	-4.7%	249	MO (-16.3%), PM (-9.8%), UVV (6.8%), VGR (-6.0%), PYX (-36.4%)
Staples	Food Retail	-5.0%	1.8%	30	KR (-11.3%), CASY (21.4%), SFM (-12.3%), SFS (31.6%), WMK (-10.1%)
Staples	Ag Products	-4.1%	-3.2%	43	ADM (-4.6%), INGR (-12.2%), BG (6.0%), DAR (-8.1%), LMNR (-15.0%)
Utilities	Indpt Pwr Prod/Energy Trd	-10.3%	-5.5%	40	NRG (-17.3%), VST (-12.6%), AES (-6.6%), CWEN.A (12.8%), AT (-4.0%)

AFG Research Database – Russell 3000 Industry Analysis: AFG Data as of 6/28/19. Market Cap and Market Weight data based on Market Cap data as of 3/29/19. Excludes

industries with less than 20B in market cap

Additional Variable Notes:

Following significant outperformance in 2018 Q4 as investors sought safety in the market sell-off, high yield stocks lagged their no yield peers through the market recovery, but mildly outperformed over the last quarter. Firms with yields greater than 3% (A-grade) outperformed firms with no yield (F-grade) by 1.3% globally. This theme was strongest in Asia and the ADR universe, while large dividend payers (3%+) underperformed in North America and Europe.

Dividend Yield 2019 Q2	Returns						Return Spreads					Counts						Yield Grades
	Uni	F	D	C	B	A	F	D	C	B	A	Uni	F	D	C	B	A	
AFG Global Database	1.4%	0.8%	1.0%	0.6%	1.5%	2.1%	-0.5%	-0.4%	-0.7%	0.2%	0.8%	5918	1172	550	1073	1026	2097	A = 3%+ B = 2-3% C = 1-2% D = 0-1% F = 0%
North America	2.4%	1.3%	5.1%	3.4%	3.9%	1.9%	-1.1%	2.7%	1.0%	1.5%	-0.5%	2283	830	191	347	327	586	
Europe	3.8%	2.0%	5.6%	5.2%	4.8%	3.1%	-1.8%	1.8%	1.4%	1.0%	-0.7%	1492	180	102	241	292	676	
Asia	-1.6%	-3.3%	-4.1%	-3.8%	-2.8%	1.4%	-1.7%	-2.5%	-2.2%	-1.1%	3.0%	2057	153	252	475	396	780	
S&P 500	3.9%	4.7%	4.8%	3.5%	4.9%	2.6%	0.8%	0.9%	-0.4%	1.0%	-1.3%	498	80	51	113	118	134	
Russell 1000	3.5%	2.7%	5.6%	4.4%	3.6%	3.0%	-0.8%	2.1%	0.8%	0.0%	-0.6%	937	244	99	176	178	238	
Russell 2000	-0.1%	-2.1%	3.4%	2.7%	4.4%	0.3%	-1.9%	3.5%	2.9%	4.6%	0.4%	1553	846	95	175	168	268	
ADRs	0.8%	-2.9%	6.2%	4.6%	2.2%	3.5%	-3.7%	5.4%	3.9%	1.4%	2.7%	579	257	36	55	52	178	
United States	2.6%	1.5%	5.1%	3.4%	4.0%	2.2%	-1.1%	2.5%	0.8%	1.4%	-0.4%	2038	772	168	309	299	488	
Canada	0.8%	-2.3%	4.8%	2.9%	1.6%	0.5%	-3.0%	4.0%	2.1%	0.8%	-0.3%	244	57	23	37	28	98	

AFG Research Database from 3/31/19 to 6/30/19

Universe Size: 5,800 to 5,900 Companies – International Database | All Sectors | 500M+ USD* | ADRs Excluded *Size Tiers include all firms that meet the market cap or index criteria.

Highly leveraged stocks (F-grade) continued to underperform their lowest leveraged peers by more than 2.0% last quarter on a global basis. This theme was consistent across all regions, but was strongest in the Russell 2000, where highly levered stocks underperformed by 7.0%! This trend was inverted in the S&P 500, where low leverage stocks underperformed.

Financial Leverage * 2019 Q2	Returns						Return Spreads					Counts						Leverage Grades
	Uni	F	D	C	B	A	F	D	C	B	A	Uni	F	D	C	B	A	
AFG Global Database	1.3%	-0.7%	1.2%	2.3%	1.9%	1.4%	-2.0%	-0.1%	1.0%	0.6%	0.1%	5964	1002	1226	1305	1281	1149	A = Lowest Quintile B = C = Middle Quintile D = F = Highest Quintile
North America	2.3%	0.4%	2.3%	2.5%	3.2%	2.3%	-1.9%	0.0%	0.2%	0.9%	0.0%	2310	313	497	594	528	377	
Europe	3.8%	2.3%	1.9%	5.5%	5.1%	4.2%	-1.5%	-1.9%	1.7%	1.3%	0.4%	1492	269	343	319	313	247	
Asia	-1.7%	-3.7%	-1.2%	-0.9%	-2.2%	-0.8%	-1.9%	0.5%	0.9%	-0.4%	0.9%	2074	408	362	369	422	511	
S&P 500	3.9%	4.5%	4.1%	3.9%	4.8%	1.7%	0.6%	0.1%	0.0%	0.8%	-2.3%	499	48	96	143	141	70	
Russell 1000	3.5%	2.2%	3.3%	3.5%	4.1%	3.8%	-1.3%	-0.2%	0.0%	0.6%	0.2%	947	114	196	254	249	133	
Russell 2000	-0.2%	-7.3%	0.5%	3.7%	0.6%	0.7%	-7.0%	0.7%	3.9%	0.8%	0.9%	1579	313	337	377	296	255	
ADRs	0.7%	0.7%	0.7%	0.0%	1.5%	0.5%	0.1%	0.0%	-0.7%	0.9%	-0.2%	613	154	111	124	123	99	
United States	2.5%	0.0%	2.5%	3.0%	3.7%	2.0%	-2.5%	0.0%	0.5%	1.2%	-0.5%	2069	275	434	535	477	347	
Canada	0.8%	3.9%	1.2%	-2.3%	-1.3%	5.9%	3.1%	0.4%	-3.1%	-2.1%	5.1%	241	38	63	58	51	29	

AFG Research Database from 3/31/19 to 6/30/19

Universe Size: 5,900 to 6,000 Companies – International Database | All Sectors | 500M+ USD* | ADRs Excluded *Size Tiers include all firms that meet the market cap or index criteria.

AFG uses Market Value / Net Invested Capital as a valuation ratio, but it can also be used to distinguish between value and growth firms. Low MVIC represents value stocks and high MVIC represents growth stocks; using quintiles, we can see the deepest value quintile (A) underperformed the highest growth quintile (F) by 5.7% globally last quarter, continuing a lengthy investor preference towards growth stocks.

MVIC * 2019 Q2	Returns						Return Spreads					Counts						MVIC Grades
	Uni	F	D	C	B	A	F	D	C	B	A	Uni	F	D	C	B	A	
AFG Global Database	1.3%	3.5%	2.7%	1.5%	-0.7%	-2.3%	2.1%	1.4%	0.2%	-2.0%	-3.6%	5964	1444	1374	1239	1062	843	A = Lowest Quintile B = C = Middle Quintile D = F = Highest Quintile
North America	2.3%	3.4%	3.9%	2.0%	-0.5%	-3.0%	1.1%	1.6%	-0.4%	-2.8%	-5.3%	2310	702	651	509	316	130	
Europe	3.8%	6.4%	4.1%	3.0%	3.0%	1.3%	2.6%	0.2%	-0.9%	-0.8%	-2.5%	1492	344	345	325	288	189	
Asia	-1.7%	0.5%	-0.8%	-0.5%	-3.4%	-3.7%	2.3%	0.9%	1.2%	-1.7%	-1.9%	2074	379	362	387	435	509	
S&P 500	3.9%	3.9%	5.2%	1.9%	2.8%	7.4%	0.0%	1.3%	-2.0%	-1.2%	3.5%	499	198	140	95	46	19	
Russell 1000	3.5%	4.4%	4.0%	3.2%	0.5%	2.8%	0.9%	0.5%	-0.3%	-3.0%	-0.7%	947	348	258	175	117	48	
Russell 2000	-0.2%	1.6%	4.1%	0.9%	-4.3%	-11.2%	1.8%	4.3%	1.1%	-4.0%	-11.0%	1579	334	408	409	280	146	
ADRs	0.7%	2.8%	3.8%	0.9%	-0.1%	-3.4%	2.1%	3.1%	0.2%	-0.8%	-4.1%	613	119	125	111	118	138	
United States	2.5%	3.3%	4.2%	2.1%	0.0%	-4.0%	0.8%	1.7%	-0.4%	-2.5%	-6.5%	2069	656	587	456	269	100	
Canada	0.8%	4.8%	1.3%	0.8%	-3.2%	0.3%	4.0%	0.5%	0.0%	-4.0%	-0.5%	241	46	64	53	47	30	

AFG Research Database from 3/31/19 to 6/30/19

Universe Size: 5,900 to 6,000 Companies – International Database | All Sectors | 500M+ USD* | ADRs Excluded *Size Tiers include all firms that meet the market cap or index criteria.

Additional information on AFG's metrics, as well as longer-term performance data, is available through the following link:

[AFG Multifactor Grades](#)

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