DAVY

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Quality Matters

Working Series

Asymmetric Returns

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It's not just business. **It's personal.**

Contents

01 Executive Summary

The unique attribute of equity investing compared with other asset classes, such as bonds or real estate, is the ability to reinvest excess profits at higher rates of return.

In this paper, we demonstrate that a Quality approach to equity investing, as defined by MSCI, has generated higher investment returns compared to global equity markets and other factor styles such as Growth and Value, as defined by MSCI, over long periods of time. We show that these higher returns are generated consistently by the Quality factor, based on rolling 25 year data, driven by downside protection. We believe this asymmetric risk-return profile is attractive to long term buy-and-hold investors.

We analyse the performance of our proprietary definition of Quality (QUALITY) over the last 15 years comparing the risk and return profile to the MSCI definition of Quality. Our more complex definition has delivered better returns and risk-adjusted returns based on traditional portfolio metrics.

02 Quality Focussed Investment Approach

In this paper we provide empirical evidence to show how stocks exhibiting QUALITY characteristics outperform traditional equity indices over economic and market cycles by generating downside protection when equity market returns are negative. We believe this meets investors' asymmetric risk profile characteristic.

The defining feature of equity investing compared with other asset classes, such as bonds or real estate, is the ability to reinvest excess profits (those not paid out as dividends) at higher rates of return. It is the ongoing ability of companies, driven by entrepreneurial endeavour, to invest in growth opportunities at these higher rates of return. This drives our confidence that equities will continue to be a stronger source of long-term returns for investors. Equity investing in line with a Quality style, broadly defined as combining returns on capital, low financial leverage and stable growth, focusses on the fundamental drivers of outperformance for equities compared with other asset classes.

At Davy Asset Management (DAM), QUALITY is founded on the four pillars of Profitability, Persistence, Protection and People. Through this approach we look to identify companies that generate higher than average rates of return on a consistent basis (Profitability and Persistence pillars). We look to manage risks, including financial leverage and environmental, social and governance (ESG) related factors, through the Protection pillar. The People pillar looks to identify management teams that allocate capital effectively. In our original paper, QUALITY MATTERS[1], we detail the fundamentals of QUALITY which are most important, and present academic evidence to support our convictions. This analysis supports our conviction that stocks which exhibit the characteristic of QUALITY will deliver consistently, stronger investment performance compared to equity market indices over the long term.

In addition to generating stronger returns over the long term, we believe investing in line with our QUALITY philosophy will generate returns with a favourable risk profile for investors. For investors needing to service real financial liabilities, the loss of capital is more damaging than foregoing the opportunity to earn excess returns. In our view, this creates an asymmetric risk profile for most investors.

In summary, we believe the combined return and risk attributes of our proprietary QUALITY investment approach will remain attractive for buy-and-hold investors.

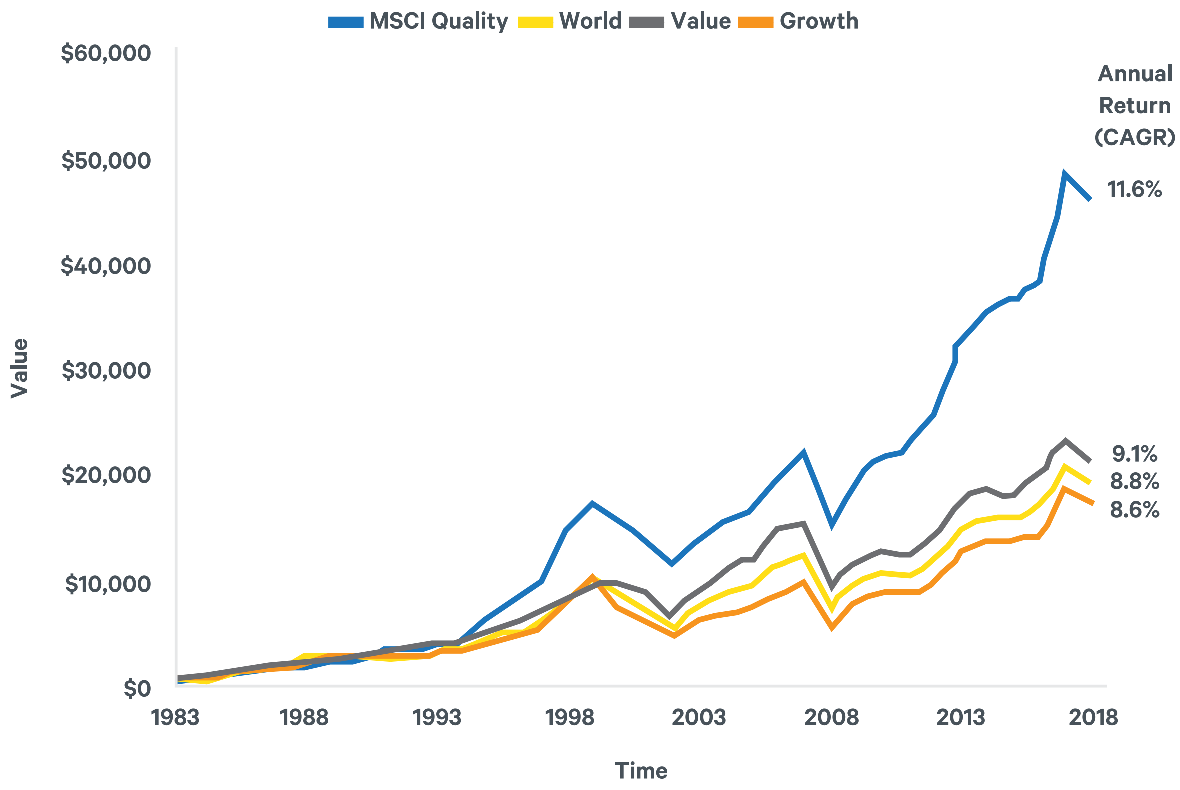
[1] "Quality Matters" White Paper – Chantal Brennan, Paraic Ryan, Hannah Cooney: 2016: http://www.davyassetmanagement.com/binaries/content/assets/assetmanagement/white-paper/quality-matters.pdf

03 Quality Outperforms

As previously mentioned, equity investing in line with a Quality style can be broadly defined as combining high returns on capital, low financial leverage and stable growth. We believe these factors are aligned with the fundamental economic drivers of long-term equity market returns. The MSCI World Quality Index (MSCI Quality) is based on MSCI World Index (World), its parent, which includes large and mid-cap stocks across twenty three developed market countries. MSCI Quality aims to capture the performance of Quality stocks based on three fundamental variables: high return on equity (ROE), stable year-over-year earnings growth, and low financial leverage.

Figure 1 shows the representative total return on $1,000 invested over the last 35 years (1983-2018) in the World and three factor indices: MSCI Quality, MSCI World Growth Index (Growth) and MSCI World Value Index (Value). The chart shows the strong outperformance of MSCI Quality, returning 11.6% on a compound annual growth rate (CAGR) basis compared to Value (9.1%), World (8.8%) and Growth (8.6%).

Figure 1: Growth of $1,000 invested in MSCI Quality, World, Value and Growth (1983 to 2018)



Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018

Warning: Past performance is not a reliable guide to future performance. Investments may go down as well as up. This product may be affected by changes in currency exchange rates.

Table 1 shows traditional risk-based measures for the indices. The MSCI Quality delivered returns that were also less volatile (lower standard deviation) than the World (the "Benchmark"), Value and Growth, and hence generated higher risk-adjusted returns.

Table 1: Risk statistics (1983 to 2018)

35 Year Risk Statistics	MSCI Quality	Growth	Value	Benchmark
Sharpe Ratio	0.57	0.31	0.37	0.36
Sortino Ratio	0.73	0.41	0.46	0.44
Standard Deviation	13.9%	15.6%	14.8%	14.8%
Tracking Error	5.6%	3.4%	3.4%	-
Information Ratio	0.48	-0.09	0.07	-
Beta vs Benchmark	0.77	1.04	0.96	-
Upside Capture vs Benchmark	93.2%	102.2%	97.5%	-
Downside Capture vs Benchmark	76.4%	104.5%	95.6%	-
Batting Average	0.57	0.52	0.50	-

Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018. Based on USD versus World (the "Benchmark").

As discussed above, we believe investors favour investment returns that are delivered with downside protection given their asymmetric risk profiles. Table 2 disaggregates the delivery of the investment returns for MSCI Quality, Value and Growth compared to World (the "Benchmark") in both “up” and “down” markets (periods when equity market returns are positive and negative respectively). We believe the defining feature of MSCI Quality is the ability to deliver significant downside protection compared to equity market returns when equity market returns are negative, while also capturing strong returns when equity market returns are positive. The data shows that average quarterly declines for MSCI Quality in “down” markets was -5.6% versus -7.5% for World. The difference represents downside return capture of 74% compared to 93% for Value and 107% for Growth.

Table 2: Up and down markets performance (1983-2018)

MSCI Quality	Quarters Above Benchmark	Quarters Below Benchmark	Total Quarters	Proportion of Quarters above Benchmark (%)	Average Portfolio Return (%)	Average Benchmark Return (%)	Average Excess Return (%)	Return Capture (%)
Up Markets	53	49	102	52	6.3	6.2	0.1	101
Down Markets	32	6	38	84	(5.6)	(7.5)	2.1	74
Total	**85**	**55**	**140**	**61**	**3.1**	**2.5**	**0.7**	
Value	**Quarters Above Benchmark**	**Quarters Below Benchmark**	**Total Quarters**	**Proportion of Quarters above Benchmark (%)**	**Average Portfolio Return (%)**	**Average Benchmark Return (%)**	**Average Excess Return (%)**	**Return Capture (%)**
Up Markets	50	52	102	49	6.1	6.2	(0.1)	98
Down Markets	21	17	38	55	(7.0)	(7.5)	0.6	93
Total	**71**	**69**	**140**	**51**	**2.5**	**2.5**	**0.1**	
Growth	**Quarters Above Benchmark**	**Quarters Below Benchmark**	**Total Quarters**	**Proportion of Quarters above Benchmark (%)**	**Average Portfolio Return (%)**	**Average Benchmark Return (%)**	**Average Excess Return (%)**	**Return Capture (%)**
Up Markets	51	51	102	50	6.4	6.2	0.1	103
Down Markets	17	21	38	45	(8.0)	(7.5)	(0.6)	107
Total	**68**	**72**	**140**	**49**	**2.5**	**2.5**	**(0.0)**	

Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018. Based on quarterly data in USD versus World (the "Benchmark").

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Over time outperformance in "down" markets is more valuable than outperformance in "up" markets. This is because market drawdowns tend to be less frequent but large in magnitude, with the value that is preserved subsequently benefitting from the compounding effect of long-term equity market returns.

04 Consistency of Outperformance

In the short term, the direction of stock markets is uncertain, but when measured across multiple business cycles, price movements generally reflect the real value of a company. To illustrate this, we have used a 10-year time period to assess the persistence of different equity investing styles. Figure 2 shows 25 rolling 10-year return CAGRs for the factors and World on a calendar year basis. The results show that MSCI Quality delivered returns ahead of those delivered by World in all 25 periods, with an average 10-year CAGR of 11.0% compared to just 7.3%.

Figure 2: Rolling 10-year investment return for MSCI Quality, World, Value and Growth (1993 to 2018)

Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018 data in USD.

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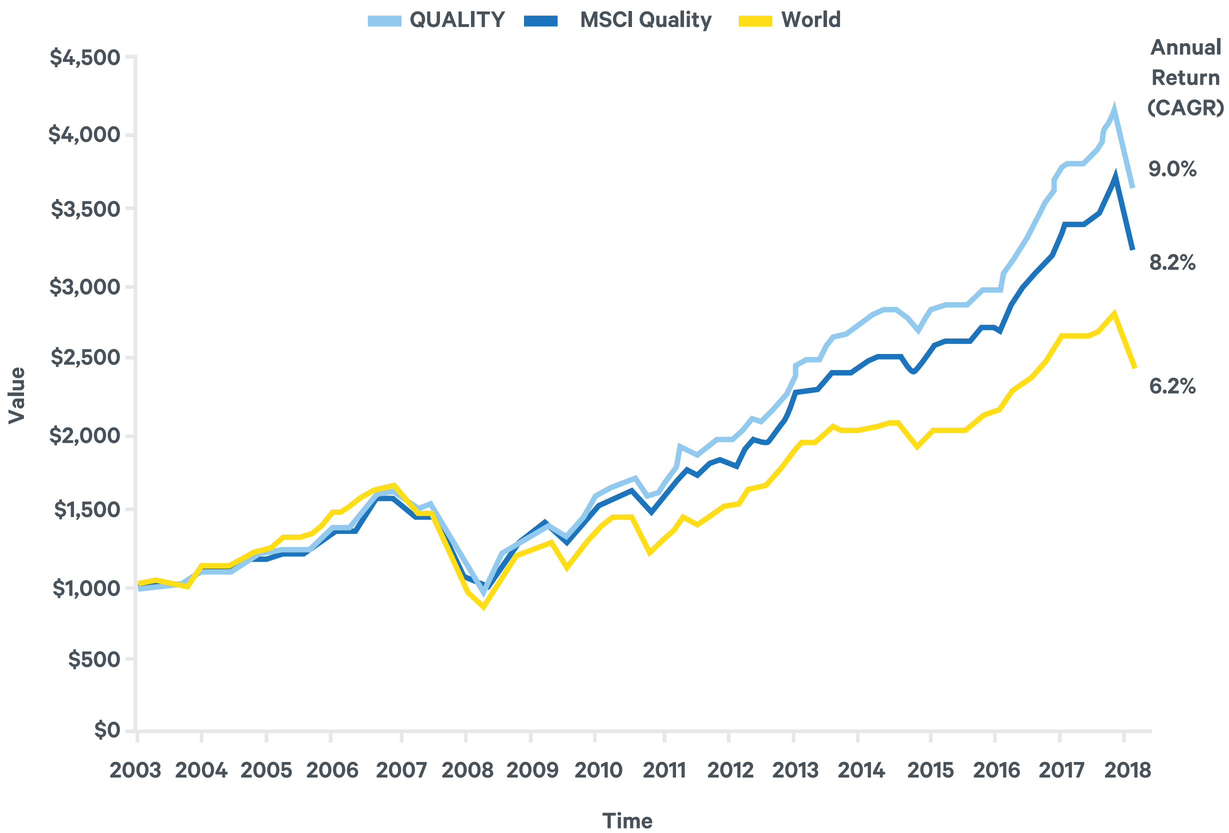
Over the 25-year period MSCI Quality and Value were the only indices which avoided a negative return with the lowest CAGR of 0.1% and 1.0% respectively. MSCI Quality outperformed Growth and Value in 100% and 89% of the periods respectively. We believe the persistence of outperformance for the MSCI Quality factor is notable and significant, supported by the strong economic rationale which underpins the factor.

05 Our Definition of Quality

Finally, we have analysed the investment returns of QUALITY and compared the risk and return profile to MSCI Quality and the World.

Figure 3 shows the representative total return on $1,000 invested over the last 15 years (2003-2018) in QUALITY, MSCI Quality and World. The chart shows QUALITY outperforms the MSCI Quality and the World, returning 9.0% net on a CAGR basis compared to 8.2% and 6.2% respectively.

Figure 3: Growth of $1,000 invested in QUALITY, MSCI Quality and World (2003 to 2018)



Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018 data in USD.

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PLEASE NOTE: Back-tested data presented for QUALITY prior to its inception was prepared by applying the QUALITY criteria to the investment universe and presenting the aggregate performance of investments meeting those criteria from 31 December, 2003 until inception.

The data in Table 3 shows that the QUALITY portfolio generates significantly better returns with lower volatility than World. The data also shows that QUALITY generates higher returns with slightly higher volatility than the MSCI Quality (13.0% vs. 12.7%), and with a higher Sharpe ratio indicating stronger risk-adjusted returns on this measure (0.60 vs. 0.54). Given investors' asymmetric risk profiles we believe risk-adjusted measures that penalize only downside volatility (such as the Sortino ratio) are a better measure of risk-adjusted returns. The QUALITY Sortino ratio of 0.75 compares favourably to 0.67 for MSCI Quality.

Table 3: Risk statistics (2003 to 2018)

15 Year Risk Statistics	QUALITY	MSCI Quality	Benchmark
Sharpe Ratio	0.60	0.54	0.34
Sortino Ratio	0.75	0.67	0.41
Standard Deviation	13.0%	12.7%	14.4%
Tracking Error	4.3%	3.9%	-
Information Ratio	0.67	0.51	-
Beta vs Benchmark	0.84	0.84	-

Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018. Based on USD versus World (the "Benchmark").

Similar to what we saw in Table 2, QUALITY has embedded downside protection. A decomposition of the investment returns for QUALITY and MSCI Quality compared to the World over this 15-year period can be seen in Table 4. The QUALITY portfolio generated marginally better downside protection compared to MSCI Quality with downside capture ratios of 70% and 71% respectively. The strong cumulative performance is the combination of similar downside protection and significant outperformance in "up" markets over the period relative to the MSCI definition of Quality. The QUALITY portfolio has a strong return capture of 99% versus just 95% for MSCI Quality in "up" markets.

Table 4: Up and down markets performance (2003-2018)

QUALITY	Quarters Above Benchmark	Quarters Below Benchmark	Total Quarters	Proportion of Quarters above Benchmark (%)	Average Portfolio Return (%)	Average Benchmark Return (%)	Average Excess Return (%)	Return Capture (%)
Up Markets	22	21	43	51	5.4	5.4	(0.0)	99
Down Markets	14	3	17	82	(5.1)	(7.3)	2.5	70
Total	**36**	**24**	**60**	**60**	**2.4**	**1.8**	**0.7**	
MSCI Quality	**Quarters Above Benchmark**	**Quarters Below Benchmark**	**Total Quarters**	**Proportion of Quarters above Benchmark (%)**	**Average Portfolio Return (%)**	**Average Benchmark Return (%)**	**Average Excess Return (%)**	**Return Capture (%)**
Up Markets	17	26	43	40	5.1	5.4	(0.3)	95
Down Markets	16	1	17	94	(5.2)	(7.3)	2.4	71
Total	**33**	**27**	**60**	**55**	**2.2**	**1.8**	**0.5**	

Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018. Based on quarterly data in USD versus World (the "Benchmark").

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06 Conclusion

We believe this analysis supports our conviction that our QUALITY investment approach will deliver consistent, superior investment performance compared to equity market indices over the long term. In addition to identifying QUALITY stocks we believe there is significant utility from employing fundamental analysis at the individual stock level to manage the main risk to this style of investing – that of mean reversion of economic returns.

Economic theory predicts that when high returns are generated this should attract competition that will eventually reduce those returns, if a company's competitive advantage ultimately proves unsustainable. We therefore devote significant time to analysing the robustness of economic "moats" at company and industry level to avoid regression of excess returns which would otherwise lead to poor investment returns.

We are active investors, blending quantitative and fundamental techniques (Quantamental) with a focus on our bespoke definition of QUALITY. This leads us to be highly selective where we decide to invest and ultimately leads us to construct concentrated portfolios comprised of high QUALITY companies.

07 About Davy Asset Management

We believe high QUALITY companies outperform over the long term. By combining the strengths of both quantitative and fundamental (Quantamental) analysis while focussing on our bespoke definition of Quality (QUALITY), we aim to improve our insights and provide consistent performance for all of our strategies. The result is an integrated investment philosophy and process, culminating in high-conviction portfolios of high QUALITY stocks held at appropriate valuations.

We view responsible investing as a key part of our fiduciary duty to our clients. Fundamentally, we view a company's ability to manage its environmental, social and governance (ESG) risks as representative of how it manages its long-term business risks, and complementary to our QUALITY philosophy.

DAM is part of the Davy Group (Group), one of Ireland's leading providers of asset management, wealth management, capital markets and financial advisory services. DAM was formed through the mergers of the Group's in-house investment manager Focus Investments and Bloxham Investment Managers in 2012, and the acquisition of Prescient Investment Managers in 2014.

We maintain the reputation established by the Group since its inception in 1926 as a recognised leader in investment management. Our objective is to understand the circumstances and aspirations of each of our clients with the aim of sharing the commitment towards achieving their unique goals.

About the Author

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Jonty Starbuck is a Fund Manager in the Global Equity investment team. He has over 15 years' investment experience. Jonty is responsible for the Global Brands strategy. Prior to joining Davy Asset Management in 2015, Jonty worked for eight years covering European consumer companies at T Rowe Price. Previously, Jonty worked for Morgan Stanley as a telecom equipment analyst. Jonty holds a Bachelor of Science (1st Class), a PhD in Structural and Theoretical Chemistry from Bristol University and is a CFA Charterholder.

08 Appendix

8.1 Market Data

	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)
MSCI Quality	(5.5)	26.0	4.6	3.7	8.4
Growth	(6.7)	28.0	2.8	3.1	6.1
Value	(10.8)	17.1	12.3	(4.8)	3.7
World	(8.7)	22.4	7.5	(0.9)	4.9
QUALITY	(4.4)	29.1	2.8	3.0	11.7

Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018 in USD.

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8.2 Annual Performance (1983 to 2018)

	% Return to End December Net					Relative to Benchmark Net			
	QUALITY	MSCI Quality	Growth	Value	Benchmark	QUALITY	MSCI Quality	Growth	Value
2018	(4.4%)	(5.5%)	(6.7%)	(10.8%)	(8.7%)	4.7%	3.5%	2.2%	(2.3%)
2017	29.1%	26.0%	28.0%	17.1%	22.4%	5.5%	2.9%	4.6%	(4.3%)
2016	2.8%	4.6%	2.8%	12.3%	7.5%	(4.3%)	(2.8%)	(4.4%)	4.5%
2015	3.0%	3.7%	3.1%	(4.8%)	(0.9%)	3.9%	4.6%	4.0%	(4.0%)
2014	11.7%	8.4%	6.1%	3.7%	4.9%	6.5%	3.3%	1.2%	(1.2%)
2013	26.4%	27.1%	26.7%	26.6%	26.7%	(0.2%)	0.3%	0.0%	(0.0%)
2012	16.3%	13.0%	16.1%	15.5%	15.8%	0.4%	(2.4%)	0.3%	(0.3%)
2011	4.0%	3.8%	(5.5%)	(5.6%)	(5.5%)	10.1%	9.9%	0.0%	(0.1%)
2010	15.7%	10.7%	14.5%	9.0%	11.8%	3.5%	(1.0%)	2.5%	(2.5%)
2009	31.2%	32.6%	33.3%	26.7%	30.0%	0.9%	2.0%	2.5%	(2.5%)
2008	(35.2%)	(33.8%)	(41.1%)	(40.4%)	(40.7%)	9.3%	11.6%	(0.7%)	0.5%
2007	17.7%	16.2%	14.8%	3.4%	9.0%	7.9%	6.6%	5.3%	(5.2%)
2006	16.7%	16.2%	15.1%	25.1%	20.1%	(2.8%)	(3.2%)	(4.1%)	4.2%
2005	9.1%	5.5%	9.4%	9.6%	9.5%	(0.4%)	(3.6%)	(0.1%)	0.1%
2004	11.0%	12.2%	10.9%	18.5%	14.7%	(3.2%)	(2.2%)	(3.3%)	3.3%
2003	23.1%	21.4%	28.1%	38.1%	33.1%	(7.5%)	(8.8%)	(3.8%)	3.8%
2002	(12.5%)	(16.8%)	(19.9%)	(19.9%)	(19.9%)	9.3%	3.8%	(0.0%)	(0.1%)
2001	(15.1%)	(12.4%)	(19.4%)	(14.9%)	(16.8%)	2.1%	5.3%	(3.1%)	2.3%
2000	(9.7%)	(10.4%)	(25.7%)	0.1%	(13.2%)	4.0%	3.2%	(14.4%)	15.3%
1999	18.5%	20.2%	32.7%	16.8%	24.9%	(5.2%)	(3.8%)	6.2%	(6.5%)
1998	32.7%	42.1%	33.4%	15.5%	24.3%	6.7%	14.3%	7.3%	(7.1%)
1997	16.8%	27.2%	15.9%	15.6%	15.8%	0.9%	9.9%	0.2%	(0.1%)
1996		27.7%	12.7%	14.2%	13.5%		12.6%	(0.7%)	0.7%
1995		33.8%	20.9%	20.7%	20.7%		10.8%	0.1%	0.0%
1994		6.1%	3.7%	6.6%	5.1%		0.9%	(1.3%)	1.5%
1993		16.3%	14.6%	30.3%	22.5%		(5.1%)	(6.5%)	6.3%
1992		1.3%	(6.4%)	(3.8%)	(5.2%)		6.9%	(1.2%)	1.5%
1991		35.7%	21.7%	13.2%	18.3%		14.7%	2.9%	(4.3%)
1990		0.3%	(16.5%)	(17.1%)	(17.0%)		20.9%	0.6%	(0.1%)
1989		27.1%	15.6%	17.6%	16.6%		9.0%	(0.9%)	0.8%
1988		17.9%	20.5%	26.7%	23.3%		(4.4%)	(2.2%)	2.8%
1987		0.3%	15.1%	18.7%	16.2%		(13.7%)	(0.9%)	2.2%
1986		31.4%	41.2%	42.3%	41.9%		(7.4%)	(0.5%)	0.3%
1985		36.2%	40.1%	42.1%	40.6%		(3.1%)	(0.3%)	1.1%
1984		5.8%	5.7%	4.5%	4.7%		1.1%	0.9%	(0.2%)

Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018. Based on quarterly data in USD versus World (the "Benchmark").

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8.3 10 Year Return CAGR (1993 to 2018)

	10 Year Return to End December Net					Relative to Benchmark Net			
	QUALITY	MSCI Quality	Growth	Value	Benchmark	QUALITY	MSCI Quality	Growth	Value
2018	13.0%	11.8%	11.0%	8.2%	9.7%	3.0%	2.0%	1.3%	(1.3%)
2017	8.7%	7.9%	6.1%	4.0%	5.0%	3.5%	2.8%	1.0%	(1.0%)
2016	7.7%	7.1%	4.9%	2.7%	3.8%	3.7%	3.1%	1.0%	(1.1%)
2015	9.1%	8.2%	6.1%	3.8%	5.0%	3.9%	3.1%	1.1%	(1.1%)
2014	9.7%	8.4%	6.7%	5.3%	6.0%	3.4%	2.2%	0.7%	(0.7%)
2013	9.6%	8.8%	7.2%	6.7%	7.0%	2.5%	1.7%	0.2%	(0.3%)
2012	9.3%	8.3%	7.3%	7.6%	7.5%	1.7%	0.7%	(0.2%)	0.1%
2011	6.2%	5.0%	3.4%	3.7%	3.6%	2.5%	1.3%	(0.2%)	0.1%
2010	4.1%	3.2%	1.8%	2.7%	2.3%	1.8%	0.9%	(0.5%)	0.3%
2009	1.6%	1.1%	(2.5%)	1.8%	(0.2%)	1.8%	1.3%	(2.3%)	2.0%
2008	0.5%	0.1%	(2.6%)	1.0%	(0.6%)	1.2%	0.7%	(1.9%)	1.6%
2007	8.0%	8.0%	5.7%	7.9%	7.0%	0.9%	0.9%	(1.2%)	0.8%
2006	7.9%	9.0%	5.8%	9.1%	7.6%	0.3%	1.3%	(1.7%)	1.3%
2005		10.0%	5.6%	8.1%	7.0%		2.8%	(1.3%)	1.0%
2004		12.7%	6.7%	9.1%	8.1%		4.2%	(1.3%)	1.0%
2003		12.0%	6.0%	8.0%	7.1%		4.6%	(1.1%)	0.8%
2002		11.6%	4.8%	7.4%	6.3%		5.0%	(1.4%)	1.0%
2001		13.8%	6.4%	9.4%	8.1%		5.3%	(1.5%)	1.2%
2000		18.9%	11.0%	12.6%	11.9%		6.2%	(0.8%)	0.6%
1999		20.2%	12.3%	10.5%	11.4%		7.9%	0.8%	(0.8%)
1998		20.9%	10.8%	10.6%	10.7%		9.3%	0.1%	(0.1%)
1997		18.7%	9.6%	11.6%	10.6%		7.3%	(0.8%)	0.9%
1996		15.9%	9.6%	11.9%	10.6%		4.8%	(0.9%)	1.2%
1995		16.2%	12.0%	14.4%	13.1%		2.8%	(0.9%)	1.1%
1994		16.4%	13.7%	16.3%	14.8%		1.4%	(1.0%)	1.2%
1993		16.4%	13.9%	16.0%	14.8%		1.4%	(0.8%)	1.1%
1992		16.5%	14.3%	15.7%	14.7%		1.5%	(0.4%)	0.8%
1991		17.8%	16.1%	17.2%	16.4%		1.2%	(0.3%)	0.6%

Source: Davy Asset Management, MSCI, and Bloomberg as at 31st December 2018. Based on quarterly data in USD versus World (the "Benchmark").

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Disclosures

WARNING: Past performance is not a reliable guide to future performance, there can be no assurance that any future investments will achieve similar results. Investments may go down as well as up. Performance may be affected by changes in currency exchange rates.

WARNING: Simulated past performance is not a reliable guide to future performance.

Important factors for back-tested Performance:
- Prepared with the benefit of hindsight/tends to produce favourable returns
- Does not account for financial risk
- Not necessarily indicative of the skill of Davy Asset Management
- Investors may experience loss

PLEASE NOTE: Back-tested data presented for QUALITY prior to its inception was prepared by applying the QUALITY criteria to the investment universe and presenting the aggregate performance of investments meeting those criteria from 31 December, 2003 until inception.

PLEASE NOTE: It is not possible to invest directly in any Index.

Important Information

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