

Quality's Performance Across the Business Cycle

Key Findings from Our Analysis

- Quality, measured as the difference between the monthly returns of the “MSCI USA Quality Index” and the “MSCI USA Index,” performs well in the observed historical period between December 1975 and March 2023. Historical annualized average performance is 1.0%.
- Quality has historically performed best in Recession stages, with positive performance in four of five observed periods - negative returns between Q3 1990 and Q1 1991 (with average annualized returns of only -0.1%). Average performance for Recession stages is 3.9% and statistically significant.
- Quality also does well in Late stages, with robust performance in all five observed complete periods but has negative returns in the partial ongoing stage that our methodology estimates we are in today. Quality's average performance for Late stages is 2.3% and statistically significant.
- Quality typically does well in Mid stages, with positive returns in four of the six observed periods. Average outperformance for Mid stage is 1.3%.
- Quality has underperformed in Early stages, with negative average returns in all five observed complete periods and the beginning partial period starting in April 1975 (we only have returns data beginning in December 1975). Average underperformance for Early stages is -1.9% but not statistically significant.

Stage	Excess Return	Tracking Error	Information Ratio	N	P-value
Early	-1.9%	3.8%	-0.50	152	7%
Mid	1.3%	3.4%	0.39	224	9%
Late	2.3%	3.6%	0.63	117	5%
Recession	3.9%	4.8%	0.82	75	4%
Full Period	1.0%	3.8%	0.27	568	7%

Definitions for categories above listed on page 6

Introduction

Quality stocks have been shown in studies to have robust historical performances.¹ This analysis takes a deeper look into the Quality factor's performance by breaking out its history into the four stages of the business cycle: Early, Mid, Late, and Recession.

Observing the performance of Quality for each of these unique periods yields evidence that Quality stocks tend to perform better in Late and Recession stages, while underperforming in Early stages. Quality's performance in Mid stages is also generally solid; however, there are multiple periods in this stage where the Quality factor has underperformed, including the late '70s and the mid 2000s.

1 Asness, C.S., Frazzini, A. & Pedersen, L.H. Quality minus junk. *Rev Account Stud* 24, 34–112 (2019). <https://doi.org/10.1007/s11142-018-9470-2>

Data & Methodology

For our analysis, we use the historical performance of the Quality factor and the estimated historical stages of the business cycle. We constrain our analysis to the U.S. - where there is the most readily available and complete data, courtesy of FRED.² All results listed in this report are computed between December 1975 and March 2023. Returns data from FactSet, which is used to calculate performance of the Quality factor is available beginning in December 1975, marking the start of the analysis.

Quality

The Quality factor generally refers to securities with robust financials, consistent growth, and stable earnings. However, the actual implementation of these ideas varies depending on the index, fund, or study. For this analysis, we measure Quality as the difference between the monthly returns of the "MSCI USA Quality Index" and the "MSCI USA Index." MSCI's quality index "aims to capture the performance of quality growth stocks by identifying stocks with high quality scores based on three main fundamental variables: high return on equity (ROE), stable year-over-year earnings growth and low financial leverage."³

Business Cycle

We break up the business cycle into four stages:

- **Early:** Economic output recovers following Recessions where activity has contracted. Typically low interest rates and stimulative policy.
- **Mid:** Moderate growth in the economy, stimulative policy pulls back.
- **Late:** Growth in the economy begins to slow as its activity comes to a peak.
- **Recession:** Economic activity declines.

We label the stages of the business cycles by imitating an analysis from Blackrock.⁴ We use a clustering algorithm that groups economically similar periods together and assigns four scores for each stage. These scores are similar to a probability that a period is in a specific stage. For each period we take the output from the algorithm and label periods, using the stage with the highest score. Then we adjust these labels, using the following overrides. All periods defined as a recession by NBER (National Bureau of Economic Research) are labeled as "Recession." Where previously the algorithm had assigned the "Recession" label and NBER does

Output Gap and the Business Cycle

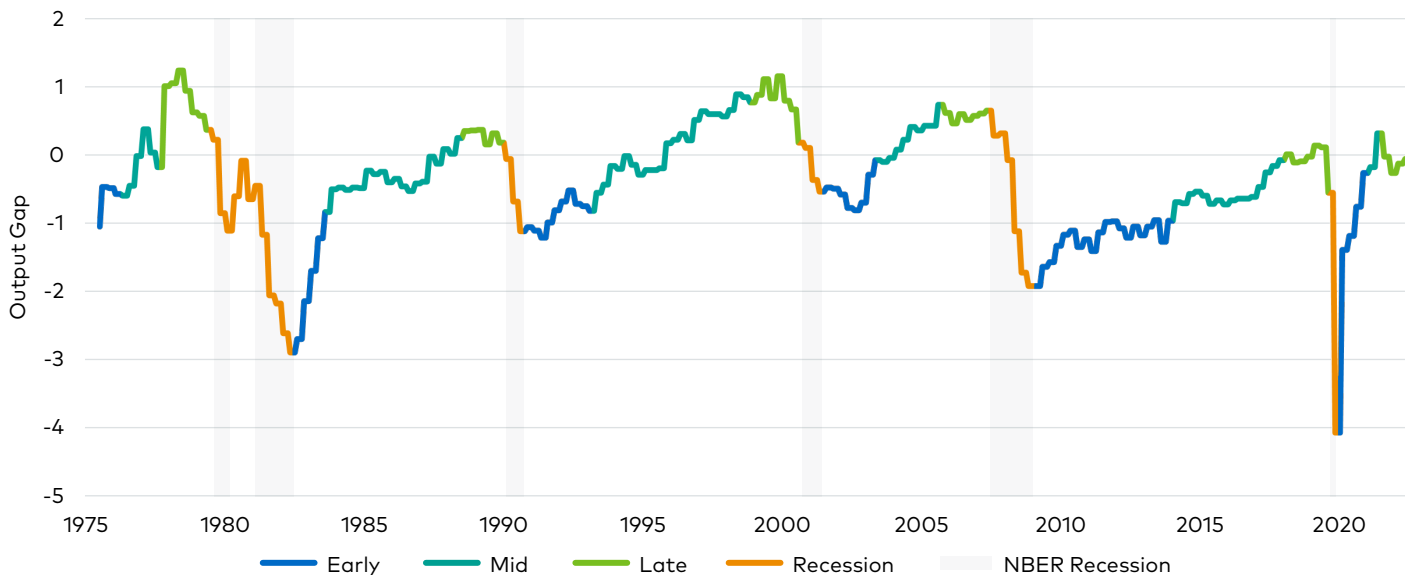


Figure 1: Source: Polen Capital, FRED, NBER, International Monetary Fund. The "Output Gap" is an economic measure of the difference between the actual output of an economy and its potential output. Potential output is the maximum amount of goods and services an economy can turn out when its most efficient – that is, at full capacity. A negative output gap occurs when actual output is below potential output. A positive output gap occurs when the economy is "overachieving." Data as of March 31, 2023.

2 Federal Reserve Economic Data (<https://fred.stlouisfed.org/>)

3 <https://www.msci.com/documents/10199/4af921f5-0bbc-470b-ad69-19a177fad9cf>

4 <https://www.blackrock.com/us/individual/insights/blackrock-investment-institute/outlook/stretching-the-cycle>

define the period as a recession, we assign the label using the next highest score from the output of our clustering algorithm. Data between August 1980 and June 1981 is then manually set to "Recession" as this short period sits between dates labeled as a recession by NBER and is not sufficient time for a full cycle to be realized. The clustering algorithm is non-predictive and uses two years of forward looking data to help in the labeling process. For this reason the last two years of business cycle labels are less accurate and subject to change as new data becomes available. Figure 1 below visualizes the business cycles over time along with the estimated output gap (in standardized units).

The output gap is calculated as the difference between real gross domestic product (GDP) and real potential GDP.

Results

Listed below in Figure 2 is the total performance of the quality factor assuming a \$100 investment at the beginning of the period in December 1975. The quality factor's relative returns are given by the difference in monthly returns between the "MSCI USA Quality Index" and the "MSCI USA Index."

We aggregate the performance of the Quality factor for each stage in the business cycle along with the full period in below. Excess returns are positive and statistically significant at the 95% level for Late stages and Recessions. In Early stages, Quality tends to underperform, while in Mid stages, Quality's excess returns are slightly positive although not significant.

Quality's Relative Performance over Business Cycles

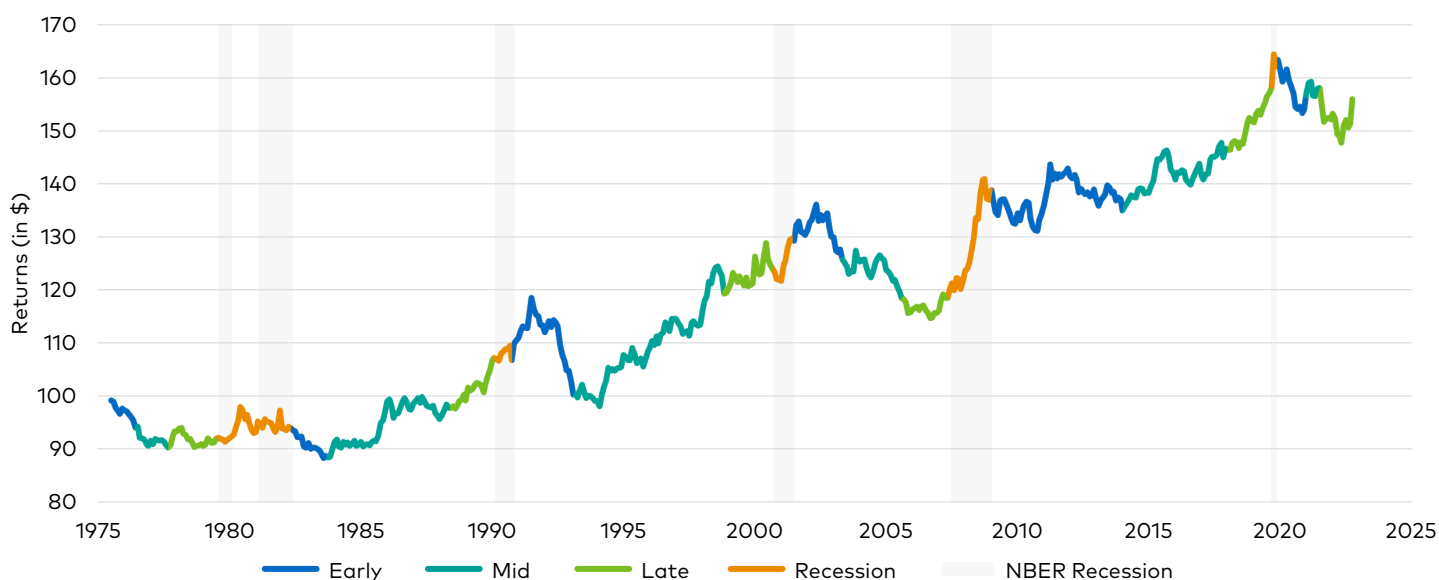


Figure 2: Source: Polen Capital, FRED, NBER, FactSet as of March 31, 2023.

Performance Metrics by Stage in the Business Cycle

Stage	Excess Return	Tracking Error	Information Ratio	N	P-value
Early	-1.9%	3.8%	-0.50	152	7%
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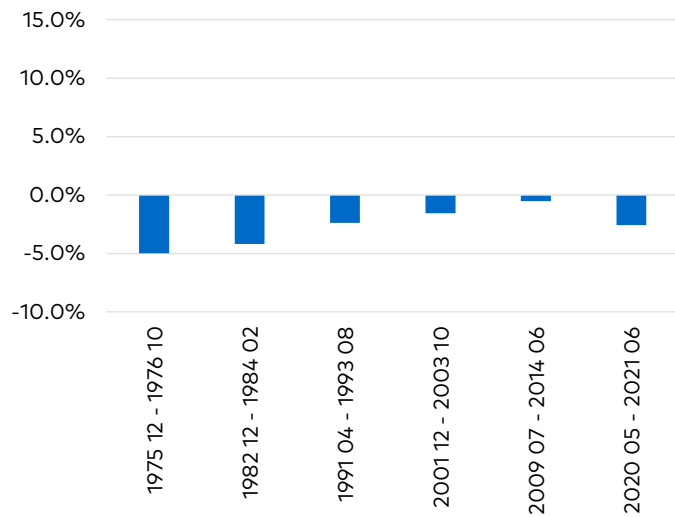
Figure 3: Source: Polen Capital, FRED, NBER, FactSet. Data latest available as of March 31, 2023.

In Figure 4 we look at every period between December 1975 and March 2023 where the U.S. economy was in a unique stage and cycle as defined by our methodology, then observe annualized average excess monthly returns of MSCI USA Quality over MSCI USA. For four of five Recessions and all five completed Late stages in our observation period, performance is positive (the current

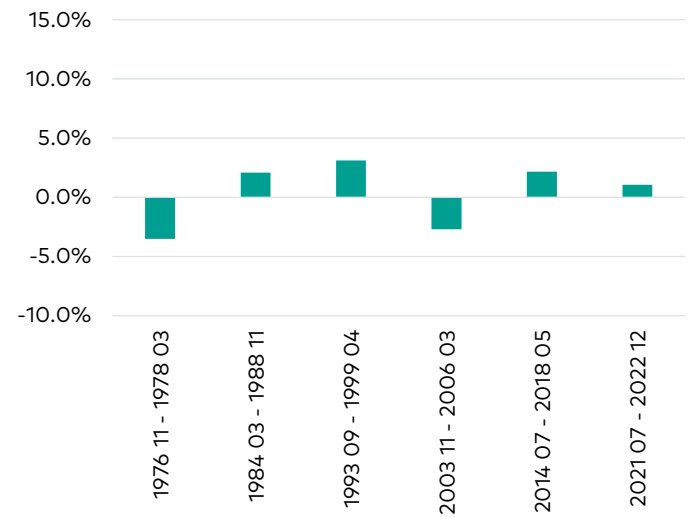
ongoing period is labeled as Late stage by our methodology but has negative returns as of March 2023). The opposite is true for the Early stages, where Quality underperformed for each observed cycle. Mid stage performance is a mixed bag, underperforming in two periods but overperforming in the other four observed periods.

Quality Outperformance for each Observed Business Cycle

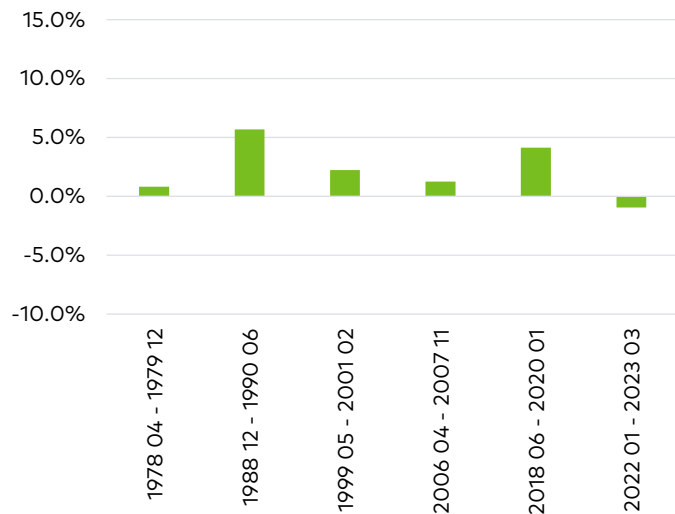
Early



Mid



Late



Recession

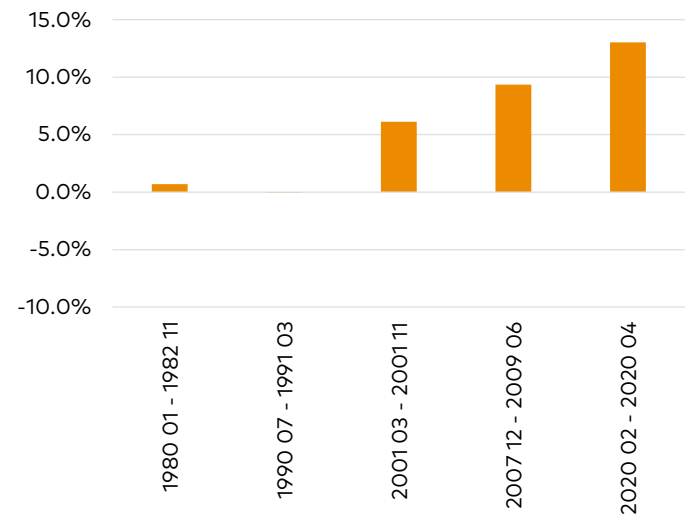


Figure 4: Source: Polen Capital, FRED, NBER, FactSet. Data latest available as of March 31, 2023.

Author



Zach Simon
Senior Data Scientist

Zach joined Polen Capital in 2021. Prior to joining Polen Capital, Zach worked as a Quantitative Researcher at State Street Associates, where he focused on studying the predictive power of machine learning on equity returns. Zach received a B.A. in Computer Science and Economics from Colby College and an M.B.A from MIT Sloan School of Management.

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Past performance does not guarantee future results and profitable results cannot be guaranteed.

Definitions:

Excess Return: Average monthly returns of MSCI USA Quality Index - MSCI USA Index, annualized.

Tracking Error: Standard deviation of monthly excess returns, annualized.

Information Ratio: Excess Return/Tracking Error.

N: Number of monthly observations.

P-Value: Level of significance that excess returns $\neq 0$; result of a two-tailed test of our observations.

ROE: Net Income / Average Shareholder Equity

The **MSCI USA Index** is a market capitalization weighted equity index that measures the performance of the large and mid-cap segments of the U.S. market. The index is maintained by Morgan Stanley Capital International.

The **MSCI USA Quality Index** is based on the MSCI USA Index, its parent index, which includes large and mid-cap stocks in the US equity market. The index aims to capture the performance of quality growth stocks by identifying stocks with high quality scores based on three main fundamental variables: high return on equity (ROE), stable year-over-year earnings growth and low financial leverage. The index is maintained by Morgan Stanley Capital International.

The same analysis of different indices could yield varying results.

The volatility and other material characteristics of the indices referenced may be materially different from the performance achieved by an individual investor. In addition, an investor's holdings may be materially different from those within the index. Indices are unmanaged and one cannot invest directly in an index.