REVELATION
INVESTMENT RESEARCH, INC.

RIR RESEARCH BRIEF

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Financial Stability and Stock Returns

Issue

Most investors would intuitively view firms with stable revenues, earnings, cash flows, and book values as having less "fundamental risk" than those with more volatile financials. While historic financial stability reduces uncertainty around near-term future financials, that benefit might be offset by stable firms having weak long-term growth prospects. How does historic financial stability correlate with future stock returns? Does it matter how historic stability is measured or which financial statement line item is being examined? What are the investment characteristics of stocks with high financial stability?

Research Approach

To answer these questions, we selected five key financial statement items for each stock: Sales, Operating Income, Net Income, Operating Cash Flow, and Common Equity. Using rolling four-quarter data from the last three years, we measured stability using the three different metrics summarized in Table 1.

Table 1: Financial Stability Measures

Metric	Formula
Coefficient of Variation (CV)	(Standard deviation of quarterly changes over last 12Q) / Abs Value (Avg 12Q value)
Trend Line Fit	Modified R-Sq from regression thru last 12Q
Net Increases	# of quarterly increases minus # of decreases

Each measure in Table 1 captures financial stability in a different but incomplete way, with financial data posing specific statistical problems we had to address. To insure that low CV values were driven by the formula numerator and not negative denominators, we created a modified CV by using the absolute value of each stock's 12-quarter average in the denominator.

The CV statistic is a direct measure of stability, but ignores the direction of quarterly changes. The R-Squared statistic from trend line regressions measures how closely the data points fit a 12-quarter trend line with values ranging between zero (no fit) and one (perfect fit), but R-Sq also ignores the direction of change, e.g., stocks whose sales went straight up or straight down would both have R-Sq values of 1.0. Therefore, we created a modified R-sq statistic that assigned a negative R-sq value to any stock whose trend line had a negative slope.

Our last stability metric – the net number of quarterly increases in a financial statement item – has no problem measuring directional changes, but ignores quarterly change magnitude, making this statistic a measure of growth persistence as much as it is a measure of financial stability.

We evaluated each financial stability metric using MSCI U.S. Investable Market Index members, which includes approximately the largest 2300 market cap stocks at each point in time. Each month from November 2001 through April 2018, we ranked stocks into uniform quintile groupings with the most stable stocks assigned to quintile 1. We computed subsequent annual buy-and-hold returns on an equal weighted basis relative to the test universe. Overall factor predictive strength was gauged using Information Coefficients ("IC" is the correlation between ranks and subsequent returns). We also ran a correlation analysis of our financial stability metrics to various other risk/return factors to understand the 'bets' that financial stability tends to make over time.

Results

Table 2 summarizes the relationship between our various financial stability measures and subsequent returns.

Table 2: Financial Stability vs Subsequent Returns

Stability Metric	Avg IC	Std IC	IC T-stat	Average 12M % Excess Return Qn 1	Qn 2	Qn 3	Qn 4	Qn 5
Mod CV 4Q Sales	0.084	0.098	3.81	0.71	1.59	1.69	-0.32	-3.91
Mod CV 4Q OpInc	0.067	0.121	3.04	0.61	0.01	0.54	-0.32	-1.40
Mod CV 4Q NetInc	0.045	0.127	2.08	-0.11	-0.06	-0.46	-0.17	0.21
Mod CV 4Q OpCF	0.074	0.098	3.29	0.91	0.54	0.84	-0.20	-2.22
Mod CV 1Q ComEq	0.060	0.095	2.80	-0.07	1.09	1.06	-0.19	-2.27
Mod R-Sq 4Q Sales	0.031	0.076	1.26	0.64	0.00	0.78	0.61	-1.77
Mod R-Sq 4Q OpInc	0.046	0.087	1.90	0.55	0.90	1.08	0.06	-2.25
Mod R-Sq 4Q NetInc	0.047	0.088	1.94	0.18	1.01	0.89	0.28	-2.22
Mod R-Sq 4Q OpCF	0.032	0.068	1.33	0.43	0.33	1.03	0.13	-1.66
Mod R-Sq 1Q ComEq	0.022	0.069	0.98	-0.05	-0.24	0.01	0.56	-0.19
Net #Inc 4Q Sales	0.031	0.071	1.44	0.22	-0.42	0.14	-0.08	-1.44
Net #Inc 4Q OpInc	0.048	0.083	2.23	0.45	0.74	0.97	0.05	-2.77
Net #Inc 4Q NetInc	0.046	0.086	2.19	0.28	0.40	1.14	-0.12	-2.28
Net #Inc 4Q OpCF	0.027	0.064	1.27	0.71	0.53	-0.49	0.03	-0.97
Net #Inc 1Q ComEq	0.034	0.074	1.58	-0.32	0.55	0.77	0.56	-1.77

Let's begin with three general observations. First and most importantly, stocks of firms with greater financial stability have tended to modestly outperform, while stocks with the most volatile financials (quintile 5) have underperformed significantly. To the extent that high

financial volatility represents undiversifiable risk, these results violate the basic return/risk relationship from financial theory. Second, quantifying financial stability using the CV statistic had the strongest relationship with subsequent returns. This result might be surprising since the other two stability metrics also capture directional change (i.e., growth). Third, investors don't seem to reward stability in one financial statement line item over another. One might have expected the earnings related metrics to be the least effective (i.e., already discounted in prices) given the emphasis investors place on predicting earnings.

We next turned our attention to understanding how financial stability is associated with other investment characteristics. Using correlation analysis, we found that how stability was measured was more important than which financial statement line item was being evaluated. For example, the five stability metrics based on CV tended to be highly correlated with one another, but much less correlated to the R-Sq and Net Increases metrics. In addition, all ten metrics based on the two directional stability measures – R-Sq and Net Increases – tended to be highly correlated with one another. As a result, we are able to save space in Table 3 by including stability measures based on just one financial statement line item. We chose the three Operating Income metrics to highlight the general correlation tendencies of all 15 stability metrics.

Table 3: Selected Factor Correlations

Factor	Mod CV 4Q OpInc	Mod R-Sq 4Q OpInc	Net #Inc 4Q OpInc
Mod CV 4Q OpInc	1.00		
Mod R-Sq 4Q OpInc	0.14	1.00	
Net #Inc 4Q OpInc	0.13	0.84	1.00
FY1 EPS / Price	0.28	0.20	0.21
Sales / Price	0.03	-0.14	-0.11
5Y Estd EPS Gth	-0.24	0.16	0.17
3Y % Sales Gth	-0.07	0.44	0.41
Beta	0.12	0.06	0.05
Market Cap	0.29	0.23	0.24
12M Price Chg	0.05	0.15	0.17
Analyst Rating	-0.08	0.19	0.17
Short Interest Ratio	0.23	0.09	0.09
12M Price Volatility	0.44	0.18	0.18

Table 3 shows that all three stability measures tend to favor stocks (i.e., have positive correlations) with higher E/P ratios, higher market caps, and lower stock price volatility. We also see large differences between measuring stability using CV vs R-Sq or Net Increases. For example, the CV metric was negatively correlated with EPS growth, sales growth, and analyst ratings while the R-Sq and Net Increases metrics were positively correlated to those growth-driven factors. The CV stability metric was also much more correlated with price volatility and short interest than the directional stability metrics. Collectively, these correlations reveal that it matters how one measures financial stability, and they suggest that using more than one stability metric may provide a more holistic assessment.

Conclusions

A foundational aspect of financial theory asserts that less risky firms should provide lower returns. Without getting lost in the debate about how to best define risk, most investors would agree that firms whose revenues, earnings, cash flows and book values are more stable through time are fundamentally less risky than those with greater financial fluctuations from quarter-to-quarter. Accordingly, one would expect that stocks of firms with greater financial stability would have lower returns than those with more volatile financials. However, we have shown in this study that stocks with more stable financials have historically *outperformed* stocks with less stable financials.

If firms with stable financials are less risky and provide higher returns, why wouldn't everyone invest in these stocks (and eventually arbitrage away their return/risk advantage)? Good question. One might hypothesize that high financial stability may come at the cost of reduced growth prospects, but Table 3 shows that the R-Sq and Net Increases measures are positively correlated with historic and forecasted growth. The correlation statistics in Table 3 also show that CV-based stability measures have little correlation with stability measures based on R-Sq or Net Increases, suggesting that combining alternative stability measures may produce a stronger, more diverse stability metric.

In recent years, researchers have labeled firms with lower investment intensity, lower external financing requirements, lower financial leverage, higher profitability, and higher asset utilization as being of superior "quality" than the average firm. RIR would add financial stability to the list of quality characteristics that seem to be rewarded with above-average returns. Given that there is no informational, institutional, or behavioral barriers to investing in "high quality" stocks, we doubt this outperformance will persist long-term. Take advantage of this opportunity while you can!