Reputation as a Selection Criteria: A "Golden Egg" or just an "Egg?"

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Abstract

The semi-strong level of the Efficient Market Hypothesis (EMH) asserts that current prices reflect all of the publically available information about a firm. Harris Interactive, Inc. has done extensive polling and data analysis of public perceptions to produce a credible numerical indicator of corporate reputations for which they have coined the term "Reputation Quotient" (RQ). Using RQ information, this research analyzes corporate annualized returns of highly visible firms with very good reputations and compares their performance with firms with very poor reputations. Portfolios of the ten firms with the best reputations have higher raw returns than portfolios of the ten firms with the worst reputations but the difference is not statistically significant. However, reputations appear to parallel risk, with firms possessing better reputations having lower return standard deviations and less sensitivity to market conditions. As a consequence, firms with good reputations have significantly higher Sharpe, Treynor, and Jensen's alpha measures. This observed outperformance was found to be more significant during the second half of the fourteen year period studied which includes the 2008 financial crisis and its' aftermath.

I. Introduction

In an informationally-efficient securities market, investors continuously price securities on the basis of current information that is expected to provide insight to the future performance of companies (Fama, 1970). This research looks carefully at the potential value of publically available information regarding a firm's reputation using a measure called the Reputation Quotient (RQ). RQs were developed by the collaborative efforts of Harris Interactive Inc. and Charles Fombrun, Professor of Management at New York University's Stern School of Business and Executive Director of the Reputation Institute (Fombrun & Shanley, 1990). Professor Fombrun (1996) also wrote the first academic textbook on corporate reputation. Others (i.e., Aneosun and Ganiyu, 2013) view the quantifying of reputations as the starting point in the development of reputation management as a separate academic discipline and research field. The RQ is a comprehensive metric that quantifies information collected from a large number of respondents and condenses it into a single number that reflects the favorableness of corporation's reputation. The RQ measures are calculated using proprietary methodology

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from data received by Harris Poll Online which has a global database of over 4.2 million cooperative respondents. The instrument enables research on the drivers of a company's reputation as well as comparisons of reputations both within and across industries.

The asserted advantages of strong reputations are powerful and visible according to Professor Fombrun (Fombrun, 1999). He contends that a strong reputation means greater consumer trust and the ability to command premium pricing. The better the reputation, the greater the company's opportunity to create new products and to lower marketing costs. It also helps companies attract the best employee talent. A good reputation means stronger word of mouth endorsement, a barrier against imitation, and faster recovery from economic recessions. "A good reputation can be a decisive source of competitive advantage in markets where companies find it hard to differentiate via the traditional means of price and quality. The bottom line," says Fombrun, "is that good reputations are valuable strategic assets that help strengthen corporate profitability". (Fombrun, 1999) Good corporate reputations are critical not only because of their potential for value creation, but also because their intangible character makes replication by competing firms considerably more difficult, according to Adeosun and Ganiyu (2013). Given the apparent current value of a good reputation and likelihood that this competitive advantage persists into the future, this study examines the predictive power of RQ announcements.

II. Literature Review

One of the most popular measures of corporate reputation is *Fortune Magazine's* annual listing of the most admired companies in the United States. Anderson and Smith (2006) report that admired firms outperformed the S&P 500. The 22 *Fortune* portfolios created from 1983-2004 achieved, on average, a 16.51 percent increase in value 250 trading days after the publication date, whereas the S&P 500 showed an average increase of only 10.27 percent increase. The differences in average wealth grew increasingly pronounced and statistically significant as the horizon lengthens. The use of the 250 trading days was necessary because like RQs Fortune's listing is not released on a fixed annual basis.

A similar study is the listing of Britain's Most Admired Companies, which was studied by UK researchers Cole, Brown and Sturgess (2014). Reputation is determined in this list's case through queries of corporate executives in the various industries. Cole, Brown, and Sturgess conclude that the optimal investment strategy was a two-step process of selecting companies with excellent reputations and then look for companies that they determined to be undervalued in the market. They reasoned that excellent reputation companies have a high likelihood of having a management that is equipped and capable to turn around whatever problems the organization was experiencing.

An interesting insight into the performance of companies with good reputations is found in research done by Grahame Dowling and Peter Moran (2012). They distinguished between companies with good reputations earned by supporting worthy causes or other

social responsibility gestures versus companies that earned good reputations from actions like producing superior products/services that were grounded in the strategy of the organization. Their conclusion is that reputations based upon corporate strategies are far more likely to reward the company with a sustainable competitive advantage. However, Raithel and Schwaiger (2015) disclosed that those reputation perceptions that are driven by nonfinancial aspects of a small sample of German firms over a seven year period were more highly correlated with future firm values than reputation perceptions that were primarily driven by previous financial performance.

In their summary of prior reputation research, Adeosun and Ganiyu (2013), struggle with defining the asset-value of a good reputation in an accounting sense. They observe that a reputation "is not a fixed asset or depreciable and a figure cannot be put on it. Adeonsun and Ganiyu (2013, p. 222) view reputation as an intangible asset that necessitates the use of complex and controversial valuation metrics. According to Hutton et al (2001), reputations are generally something that cannot be managed directly, but are a general response to a firm's behavior. In fact, we typically do not refer to reputation in rational number terms, but with ordinal measures such as the possession of a "good," "neutral," or "bad" reputation. In order to benchmark behavior, Fombrun and van Riel (1998) assert that reputation is an aggregate assessment of a firm's actions relative to the perceived norms in an industry. Indeed, Genasi (2002) asserts that the value of a corporation's reputation arises from it being a touchstone to the future in a world full of unknowns. Fombrun's Reputation Quotient (RQ) metric is an attempt to quantify this elusive asset.

Even if reputation can be described and measured, one still has to identify what constitutes a "good" versus a "bad" reputation. Harris Interactive has identified a RQ hurdle above which it considers firms to have an "excellent" reputation. In a recent study, Gonzales and Krueger (2015) used this information to compare the stock price performance of firms with excellent reputations relative to the Standard & Poor's 500. In years with at least two firms in the "excellent" reputation category, equal investment in the "excellent reputation" firms provided a significantly higher rate of return relative to the Standard & Poor's 500 Index.

This is not the only study comparing the performance of firms with high RQs to those with low RQs. Prior research (e.g., Krueger and Wrolstad (2007), Krueger, Wrolstad, and Van Dalsem (2009) and Krueger, Wrolstad, and Van Dalsem (2010)) however assume an investment horizon of one year, regardless of the duration of the intervening period between the publication of RQ values. As shown in Table 2, the time between public announcements has in fact ranged from 256 to 507 days. The artificial assumption that the RQ's impact lasts for exactly 365 days has the potential to confound the results. When the interval between RQ announcements is short, there is likely to be an understatement of the impact of a given RQ announcement. At the opposite extreme, when the interval between RQ announcements is long, the impact of a given RQ

announcement is likely to be overstated. For instance, if either the TOP10 or BOT10 portfolio consistently earned a 0.25 percent monthly excess return, an eight-month interval would find a 2.0 percent rate of excess performance, while a 17-month interval would be assigned a 4.25 percent rate of excess performance. The variation in excess performance is likely to diminish the statistical significance of RQ measure. Although one could argue that an investor using the RQ methodology could shift to cash twelve months after an RQ announcement, it is more probable that a typical investor would leave their funds in an RQ-based portfolio awaiting the next RQ press release.

For this research, we recast the holding period returns into annualized return streams for the Top 10 and Bottom Ten RQ portfolios and we have completed a detailed investigation of return, risk, and risk-adjusted return performance of the stock portfolios. An additional change from previous work done by Krueger, et al. is the seventy-five percent increase in available observations, which is achieved by the passage of the years since the previous research was completed.

III. Methodology

Sample

Harris Interactive began reporting Reputation Quotients in 1999. On February 3, 2014 Harris Interactive was acquired by Nielson Holdings N.V. to reportedly bolster the proprietary information Nielson supplies to manufacturers and retailers (Feltner, 2014). This analysis is based upon a total of fourteen Reputation Quotient (RQ) reports made prior to the acquisition of Harris Interactive by Nielson Holdings.

In this research two portfolios are created, one consists of the covered firms with the ten highest reputations (Top 10 Portfolio) and the other consists of the ten firms with the lowest reputations (Bottom 10 Portfolio), as measured by Harris Interactive's RQ measure. Equal investment in all 10 companies in each portfolio is assumed. A larger sample would dilute the potential impact of the RQ measure while a smaller sample would increase the likelihood that unique events at individual companies would confound results. Given that RQs are publically reported for a total of 60 companies each year, our investigation captures the performance of one-third of the firms, with an equal initial number selected at both extremes. Portfolio membership is updated on the day a new RQ article is published by Harris Interactive. This analysis could be theoretically based on 280 firms (i.e., 20 RQ firms taken from each of the 14 surveys), consisting of 140 firms with outstanding reputations and 140 with poor reputations. However, Harris Interactive periodically includes a company in its survey, which has never been publicly-traded (i.e., S.C. Johnson), has been acquired (i.e., Bridgestone), or either goes bankrupt or is

acquired before the next RQ survey is released (i.e., Merrill Lynch and Chrysler, respectively). A complete listing of all companies with extreme RQ ratings that are not in the sample for these reasons is presented in Table 1. Information on only one company with a high RQ rating (i.e., S.C. Johnson) is not available, resulting in this segment of the investigation being based on a total of 139 observations of performance by firms with widely accepted favorable reputations.

As depicted by Table 1, most of the missing data exists within the low RQ segment of the empirical sample. After adjusting for the number of instances without complete information among the set of firms with low RQ measures, the impact of low reputations is being estimated using 122 observations, or 87 percent of the relevant population. Although additional firms with low RQ measures could be added, their inclusion would add firms with less extreme reputations, which is likely to confound the results. To the extent that ow RQ firms listed in Table 1 earn lower returns than other firms in the Bottom 10 portfolio when they file for bankruptcy, the impact of the missing values is a bias in favor of finding less of a difference between the return performance of the Top 10 Portfolio and Bottom 10 Portfolio. Although the asymmetric distribution of missing values leads to the warning that these results should be viewed with caution, excluding firms that provide total losses to investors results in a more conservative analysis of the importance of corporate reputations. It is not possible to include the bankrupt firms by assigning a complete loss to such investments, because trading has frequently halted prior to inclusion in the RQ announcement.

This study addresses the predictive nature of firm reputations. The prediction hypothesis postulates a causal relationship running from company reputation to share prices. As a consequence, it implicitly assumes that the market is inefficiently pricing the reputation metric as measured using Reputation Quotients. In order to seek evidence of market inefficiency, we analyze share price performance during the period after the release of RQ survey results. This study expands upon the research done in Krueger, Wrolstad, and Van Dalsem (2009) in two ways. Firstly, we have included additional RQ announcements that were not available to the previous researchers and secondly, by employing annualized returns as our measure of investment performance.

Justification for Annualizing Returns

Unlike quarterly or year-end financial reports, an exogenously fixed time schedule does not exist for the release of information on firm reputations. Reputation quotients (RQs) are also not as highly anticipated or widely reported as Harris Interactive's political surveys. Consequently, RQs are not reported on a fixed periodic schedule. As shown in the first row of Table 2 the average time between the releases of RQs is slightly over a

year, coming in at 1.04 years or 379 days. If you were to take the total number days from the very first 1999 RQ announcement to the 2014 RQ announcement and divide by 14, you would end up with a value of 1.03. The extra 0.01 is tied to leap years, which occurred in 2000, 2004, 2008, and 2012. The extent to which this number exceeds 365 is the difference between the calendar date when the first Reputation Quotient report was released in 1999 and one year after the last pre-acquisition RQ announcement in 2013. Of course this is an extensive process that frequently begins in the prior year with identification of the sixty most prominent firms. For example, the 2013 announcement is based upon information for which the survey process began in 2012.

The median time between observations is an almost identical 1.02 years or 371 days. A similar mean and median suggests that the distribution of announcement periods exhibits little skewness. However, one should not take this similarity as a guarantee that there has been little variation in the length of time between announcements. Simple comparison of the average and median can hide the actual amount of variation in announcements. The actual average difference between 379 days and the actual announcement date is 0.15 years, or 55 days, as shown in the third row of Table 2. In this case the median is noticeably shorter, at 0.11 years, or 40 days. The higher average suggests that we are dealing with "fat tail" distribution of actual reporting periods around the mean.

Ideally, one would prefer no absolute difference in in the days on which RQ information is released. Stated another way, it would be ideal if the announcements were all on the same day of the year. Annualizing returns would not be necessary in such a case. However, the one instance of this occurring is a statistical artifact, created by ending the final forecast period one year before the last announcement. The maximum time between announcements was the 507 days between the initial announcement and the second RQ report publication on February 7, 2001. The minimum time lapse between RQ announcements was 0.70 years, as reported in the bottom row of Table 2. In 2004, RQ-related press releases occurred on February 19 and November 15 of the same year.

Performance Measures

Returns based only on prices and total returns (based on both prices and dividends) are computed for individual firms. Firm returns are equally weighted to create portfolio returns. Both return streams were identified in order to detect any ability of dividends to impact firm reputation beyond that which would arise from stock price-based returns alone. Firms with worse reputations may offer a higher dividend yield in order to attract investors. For instance, near the end of the empirical sample, dividend yields in the tobacco industry ranged from 5.46% at Lorillard to 3.92% at Philip Morris (Maurer, 2012). Philip Morris showed up frequently in the Bottom 10 portfolio, while the less

well-known Lorillard seldom made the list of 60 firm RQ ratings reported by Harris Interactive.

Mean, median, and geometric means are computed with the latter two being measured due to the limited sample and large difference in return volatility, respectively. Risk-adjusted returns were estimated using Sharpe ratios to estimate returns in excess of the risk-free rate per unit of total risk, which is estimated using standard deviation. Treynor ratios measure returns in excess of the risk-free rate per unit of systematic risk, while Jensen's alphas measures are estimates of return in excess of what is required based upon the risk-free rate, market return, and systematic risk. The three measures were computed in the traditional way using the following equations. .

Sharpe ratio = $(R_i - R_f) / \sigma$

Treynor ratio = $(R_i - R_f) / \beta$

Jensen's alpha = $R_i - R_f - \beta (R_m - R_f)$

Where,

β = a measure of systematic risk, using five years of data and the Standard & Poor's 500 as the measure of market returns.

R_f = annualized combination of rolling three-month Treasury bill yields during the period between HQ announcements, weighted for the date when the RQ announcement is made

R_i = annualized portfolio return between RQ announcement dates which may include dividends when R_i is a total return measure

R_m = annualized return on the Standard and Poor's 500, with and without the dividend yield, depending upon the form of the R_i term

σ_i = standard deviation of the portfolio return

Pairwise t-tests are run to compare the mean return and estimated risk-adjusted return measure for the two independent Top 10 Portfolio and Bottom 10 Portfolio investments in a manner similar to the research method followed in prior research (i.e., Krueger and Wrolstad (2009) and Krueger Wrolstad and Van Dalsem (2010)). The null hypothesis is

that the high RQ and low RQ portfolios earned the same rate of return. The tables below present t-statistic p-values, giving the reader insight to the probability of rejecting a correct null hypothesis that share prices are independent of the RQ measure of firm reputation. If no significance is found the stock market are informationally efficient preventing investors from using the RQ information as a means to earn abnormal rates of return.

IV. Findings

Returns and Risk

Means annualized returns are presented in the first row of Table 3. Price-based returns and total returns are presented in the left and right columns, respectively. Subtraction of the priced-based value from the total return value reveals the average annual dividend payment. The Top 10 Portfolio, consisting of firms with the highest RQ values had the highest subsequent returns, regardless of whether returns are defined in terms of share prices or total returns. Although the difference in price-based returns and total returns exceeds four percent, the difference is not statistically significant suggesting the RQs are poor predictors of subsequent returns.

An interesting revelation arising from Table 3's first row of data is that firms with the worst reputation had a higher dividend yield in the subsequent year. The Top 10 Portfolio had a dividend yield of 2.15 percent (i.e., 11.65% - 9.5%), while the dividend yield of Bottom 10 Portfolio was 3.51 percent (i.e., 7.64% - 4.14%). The 1.36 percent difference was able to offset about one fourth of the 5.36 percent (i.e., 9.50% - 4.14%) difference in price-based returns.

In every column, the geometric mean return was lower than the mean return, while the median return was higher. The reason for the consistency of this pattern in is revealed by information exhibited in the remaining three rows of Table 3, where we see that there is a large difference between the single highest annualized return and the lowest annualized return following RQ announcements. The larger return standard deviation found in the Bottom 10 Portfolio columns explain the larger difference between geometric and median values found earlier in Table 3. In summary, Table 3 documents the higher annualized returns of the Top 10 Portfolio, though post-announcement returns are quite variable.

In light of the creation of portfolios of firms with extreme levels on the Reputation Quotient metric, systematic risk is a relevant risk measure. Portfolio betas presented in Table 4 are an equally weighted average of the portfolios of the firms in each extreme cluster. Investor aversion to systematic risk is evidenced by these values, with the Top 10 Portfolio's average beta being less than 1.0, or "defensive" in nature. By comparison, the Bottom 10 Portfolio's beta values are consistently higher and greater than 1.0, which

is commonly referred to as being "aggressive." In fact, the average Bottom 10 Portfolio beta, given in the first row of Table 4, is a whopping 68 percent larger.

The similarity of average and median values in each column of Table 4 delineates stability in the RQ values across time. However, the Top 10 Portfolio's beta range from 0.688 to 1.068, with the latter value representing only a slight level of "aggressiveness," the Bottom 10 Portfolio's beta ranges from 0.987, or about unity, to 2.257. The relatively high beta standard deviation value reflects the wide range of Bottom 10 Portfolio beta values across time. In summary, Table 4 reports that firms with higher Reputation Quotients tend to have lower levels of systematic risk.

Risk-adjusted Return Estimates

Given the Top 10 Portfolio's lower level of risk in terms of standard deviation and systematic risk, as exhibited in Table 3 and Table 4, respectively, risk-adjusted returns of the Top 10 Portfolio and Bottom 10 Portfolio were computed and contrasted. Table 5 contrasts risk-adjusted performance when standard deviation is used as the measure of risk. The Sharpe values of both portfolios are greater than zero, as shown in Panel A, indicating that both portfolios provide a return in excess of Treasury yields. In both instances the Top 10 Portfolio's Sharpe values are significantly larger at the 0.05 level. With almost a ninety-nine percent level of confidence, we can say that the Top10 Portfolio outperformed the Bottom10 Portfolio in terms of return in excess of the Treasury yield per unit of standard deviation.

Results for the first and second seven-year periods within the fourteen-year sample period are reported in Panel B of Table 5. For instance, in the first column, the full sample period's 0.459 Sharpe value of the Top10 Portfolio's price-based returns arises from a 0.258 Sharpe value in the first seven years and a 0.605 level in the second seven years. A lack of significance despite the large difference in sub-period Sharpe values is not surprising given the limited number of observations.

Comparison of the Top10 Portfolio's Sharpe values and Bottom10 Portfolio's Sharpe values reveals a consistent level of higher performance for the Top10 Portfolio which helps to make the t-statistic p values more significant for the entire period than the individual periods separately. Despite the limited number of observations, during the most recent 7-year period, the Sharpe value of the Top10 Portfolio is significantly higher at the 0.05 level. Higher Sharpe values exist whether returns are based on price or both price and dividends. In summary, firms with higher reputations earned higher risk-adjusted returns, in terms of Sharpe values, with the predictive power of firm reputations being most dramatic in recent years.

Given that portfolio performance relative to the stock market overall is an appropriate comparison, Table 6 reports beta-adjusted portfolio-excess returns, or Treynor values.

Given the wider disparity in betas than standard deviations, it is not a surprise to see the Top10 Portfolio registering much higher Treynor values. Being defensive, Top10 Portfolio betas actually accentuate the difference between portfolio returns and the Treasury yield. Conversely, the highly aggressive Bottom10 Portfolio's beta diminishes the difference between this portfolio's return and the Treasury yield. One can say with a ninety-nine percent level of confidence that the Top10 Portfolio's Treynor measures are higher using price-based returns. Inclusion of the higher dividend yield posted by Bottom10 Portfolios has a limited impact, diminishing the relative value of the Top10 portfolio from 8.86 percent (i.e., 9.65% - 0.79%), to 8.79 percent (i.e., 12.16% - 3.37%). The level of confidence falls to being just slightly lower than ninety-nine percent.

In all but one instance, the Treynor values are higher in the second seven-year sub-period. The exception to this rule is that the Bottom10 Portfolio's Treynor measure is higher during the first sub-period when considering total returns. Nonetheless, the difference between the first and second sub-period is not significant for any return series. A comparison of Top10 Portfolio Treynor measures and Bottom10 Portfolio Treynor values reveals that the former is always higher. In fact, during the most recent sub-period the performance difference is significant at about the ninety-nine percent level. In summary, selection of firms with higher RQs resulted in better portfolio performance when measured using Treynor values, and this better performance has grown in more recent years.

While investors consider returns in terms of percentages and excess returns relative to required returns, the Treynor statistic measures performance in terms of return per unit of systematic risk. Consequently, Jensen's alpha measures were also estimated, because these statistics measure the extent to which returns exceed required returns in light of Treasury yields, market returns, and the level of systematic risk. Two measures of market returns were captured, one being the annualized changes in the Standard & Poor's 500 Index. The other market measured added the dividend yield on the S&P 500 Index during the period to changes in the index itself. The first set of columns presented in Table 7 include only the change in the Standard & Poor's 500 as an input to the capital asset pricing model (CAPM) upon which Jensen's alpha is based. Jensen's alpha estimates using total market return are presented in Table 7's second set of columns.

Whether considering price-based or total returns, the Top10 Portfolio's Jensen's alpha measures exceed the Bottom10 Portfolio's alpha estimates. In fact, the Top10 Portfolio provides positive alpha values, while the Bottom10 Portfolio's alpha values are negative, with the difference being over ten percent whether you include or exclude dividends. Careful comparison of each set of columns provides additional insight. Comparing the Top10 Portfolio columns (i.e. 5.62% and 6.16%), we can conclude that the defensive betas of the Top10 Portfolio were sufficient to offset its lower dividend yield relative to the market. The Bottom 10 Portfolio's Jensen alpha improves when dividends are

added, suggesting that this portfolio's higher dividend payment is more than sufficient to offset the larger amount required as a consequence of this portfolio's higher beta. Nonetheless, The Bottom 10 Portfolio's total return's alpha value indicates that it underperforms required returns by over four percent annually. The measures of statistical significance both indicate that we can say with a ninety-five percent level of confidence that the Top10 Portfolio outperformed the Bottom10 Portfolio when using Jensen's alpha as a benchmark.

Unlike sub-period results presented in Table 5 and Table 6, there was a statistically significant change in the alpha measures across sub-periods for each portfolio. Top10 Portfolio alpha values doubled, which was significant at the 0.10 level when either price-based or total returns are considered. By contrast, Bottom10 Portfolio alpha values dropped, with the drop being significant at the 0.10 level when total returns are under consideration. During the latter seven-year period, the Bottom 10 portfolio underperformed the market by over eleven percent, per the Jensen's alpha statistic. During this latter period, the difference in Jensen's alphas between the Top10 Portfolio and Bottom 10 Portfolio was significant at the 0.05 level with or without consideration of dividend payments. In summary, firms with high reputations earn a return in excess of the required return based on the CAPM- founded Jensen's alpha measure, while the dismal performance of the firms with poor reputations is well below the required return and worst in the recent time period.

V. Conclusion

The importance of corporate reputation is widely perceived as being a key to firm success, as attested to repeatedly by Federal Reserve Board Chairman Alan Greenspan (1999, 2004). Several recent studies examined the importance of firm reputation in selecting firms. Although one might argue that firms with better reputations should perform well in the future, in an efficient market their current share price should already reflect reputation as well as all other aspects of a firm. Hence, firms with good reputations should subsequently only earn the risk-adjusted market return. A corollary to this efficient market hypothesis reasoning is that those firms with poor reputations should be priced at relatively low values for the market to be in equilibrium, resulting in market matching subsequent performance.

A popular, widely disseminated measure of firm reputation is Harris Interactive's Reputation Quotient (RQ) value, which first became available in 1999. Past research has estimated firm return between RQ announcements. This return measurement process however does not consider difference in the timing of RQ announcements, which we found to run from 256 to 507 days. Differences in interval length will impact returns and

return measurements. Treating these varying time periods similarly has the unintended impact of understating the RQ selection during short intervals and overstating RQ selection during longer intervals. The research method will have a confounding impact limiting the statistical significance of the RQ metric. In order to adjust for this methodological error, we computed annualized returns.

Our results are consistent with those found elsewhere. A portfolio of ten firms with the best reputations has higher raw returns than a portfolio of firms with the worst reputations although the result is not statistically significant. However, reputation appears to have an inverse relationship with risk. Firms possessing better reputations have lower return standard deviation and less sensitivity to market conditions. As a consequence, firms with good reputations have significantly higher Sharpe, Treynor, and Jensen's alpha measures. Outperformance was more significant during the more recent period, which included the 2008 financial crisis. As noted in the discussion of the data, this study excludes firms that went bankrupt or were acquired by other firms at rock-bottom prices during the year following RQ announcement release. Hence, these findings probably overstate the performance of firms with poor reputations. Future research might consider the RQ and other measures of firm reputation across a variety of economic conditions to evaluate the importance of market conditions on the investment value of information regarding firm reputation.

Table 1. Firms with Reputation Quotients not included in Study

Firm	*RQ Year*	*Why Excluded*	*Year of Event*
Top 10 Portfolio Firms			
SC Johnson	*2010*	*Always private*	*not applicable*
Bottom 10 Portfolio Firms			
MCI Communications (WorldCom)	*2002,2006*	*Bankrupt*	*2002*
Bridgestone Tire	*2003*	*Acquired by Firestone*	*1988*
Adelphia Communications	*2003, 2005, 2006*	*Bankrupt*	*2002*
Global Crossing	*2004*	*Bankrupt*	*2002*
Enron	*2006*	*Bankrupt*	*2001*
Northwest Airlines	*2008*	*Acquired by Delta*	*2005*
Citgo Petroleum	*2008,2009*	*Acquired by Petroleos de Venezuela*	*1990*
Chrysler	*2008, 2009, 2010, 2011*	*Acquired by Cerberus*	*2008*
Merrill Lynch	*2009*	*Acquired by Bank of America*	*2009*
General Motors	*2009, 2010*	*Bankrupt*	*2009*

Table 2. Analysis of Variation in Reputation Quotient Announcement Dates

Average Time Period Between RQ Announcements	1.04 years	379 days
Median Time Period Between RQ Announcements	1.02 years	371 days
Average Absolute Excess Sample Period Length	0.15 years	55 days
Median Absolute Excess Sample Period Length	0.11 years	40 days
Minimum Absolute Excess Sample Period Length	0.00 years	0 days
Maximum Time Between RQ Announcements	1.39 years	507 days
Minimum Time Between RQ Announcements	0.70 years	256 days

Table 3. Contemporaneous Return Characteristics

	Price-based Returns		Total Returns	
	Top 10 Portfolio	Bottom 10 Portfolio	Top 10 Portfolio	Bottom 10 Portfolio
Mean Return	9.50%	4.14%	11.65%	7.64%
t-statistic p values	0.1117		0.198	
Geometric Return	8.28%	0.32%	10.43%	3.83%
Median Return	10.15%	4.77%	12.24%	8.03%
Maximum Return	45.07%	42.47%	46.93%	52.32%
Minimum Return	-22.43%	-42,.14%	-20.63%	-41.03%
Return Standard Deviation	16.70%	27.82%	16.81%	28.50%

Table 4. Detailed Analysis of Portfolio Beta

	Top 10 Portfolio	Bottom 10 Portfolio
Average	0.861	1.449
Median	0.838	1.411
Maximum	1.068	2.257
Minimum	0.688	0.987
Standard Deviation	0.101	0.338

Table 5. Sharpe Measure Estimates of Total Risk Adjusted Contemporaneous Returns

	Price-Based Returns			Total Returns		
Panel A. Entire Sample Period	Top 10 Portfolio	Bottom 10 Portfolio	t-statistic p values Across Portfolios	Top 10 Portfolio	Bottom 10 Portfolio	t-statistic p values Across Portfolios
	0.459	0.091	0.012**	0.582	0.211	0.015**
Panel B. Sub-period						
First 7 Years	0.258	0.081	0.182	0.425	0.282	0.256
Second 7 Years	0.605	0.093	0.020**	0.698	0.140	0.017**
t-statistic p values Across Time Periods	0.206	0.481	na	0.4820.223	0.437	na

*, **, *** indicates significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 6. Treynor Measure Estimates of Systematic Risk Adjusted Contemporaneous Returns

	Price-Based Returns			Total Returns		
Panel A: Entire Sample Period	Top 10 Portfolio	Bottom 10 Portfolio	t-statistic p values Across Portfolios	Top 10 Portfolio	Bottom 10 Portfolio	t-statistic p values Across Portfolios
	9.65%	0.79%	0.007***	12.16%	3.37%	0.011**
Panel B: Sub-period						
First 7 Years	4.18%	0.51%	0.170	6.86%	4.61%	0.257
Second 7 Years	15.11%	1.07%	0.011**	17.46%	2.13%	0.009***
t-statistic p values Across Time Periods	0.195	0.483	na	0.203	0.422	na

*, **, *** indicates significance at the 0.10, 0.05, and 0.01 levels, respectively

Table 7. Jensen's alpha Measures of Systematic Risk-Adjusted Contemporaneous Returns

	Price-Based Returns			Total Returns		
Panel A. Entire Sample Period	Top 10 Portfolio	Bottom 10 Portfolio	t-statistic p values Across Portfolios	Top 10 Portfolio	Bottom 10 Portfolio	t-statistic p values Across Portfolios
	5.62%	-4.80%	0.041**	6.16%	-4.08%	0.029**
Panel B. Sub-period						
First 7 Years	3.07%	-0.53%	0.199	4.06%	2.88%	0.377
Second 7 Years	8.17%	-9.07%	0.031**	8.25%	-11.04%	0.021**
t-statistic p values Across Time Periods	0.060*	0.113	na	0.098*	0.059*	na

*, **, *** indicates significance at the 0.10, 0.05, and 0.01 levels, respectively.

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