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VIEWPOINT

Financial performance of Baldrige Award winners: a review and synthesis

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Received February 2011
Revised February 2011
Accepted February 2011

Abstract

Purpose – The National Commission on Fiscal Responsibility and Reform recently released a preliminary report with recommendations on cutting costs in the federal government, and one of its recommendations included the elimination of the Baldrige Performance Excellence Program, formerly known as the Malcolm Baldrige Nationality Quality Award Program. Established by an act of Congress in 1987, during the Reagan Administration, the goal of the Malcolm Baldrige Nationality Quality Award Program was to stimulate and reward product quality excellence. Since the inception of the award, however, there has been a long-standing controversy among industry leaders and academics on whether winning this award does enhance future financial performance and ultimately shareholders' wealth. This debate has again been recently fueled by the possible elimination of the program by the US government. This study, aims to shed further light on this subject by examining the academic research on the financial performance of the Baldrige Award winners.

Design/methodology/approach – The paper examines academic and professional research on whether the Award adds value to firms and their investors.

Findings – The conclusion, perhaps not surprisingly, is somewhat mixed; although there is parsimonious evidence to suggest that Award winners do witness an increase in market value. By and large, the authors feel that when all the benefits of the Baldrige Performance Excellence Program are considered and given the short-term focus of studies in this area, the elimination of the program would be a terrible mistake.

Originality/value – The paper offers an original review and synthesis.

Keywords Baldrige Award, Firm value, Financial performance, Event study, Quality awards

Paper type Research paper

Introduction and background

The Baldrige Performance Excellence Program, formerly known as the Malcolm Baldrige Nationality Quality Award Program, was at the center of a debate recently. The National Commission on Fiscal Responsibility and Reform recently released a preliminary report with recommendations on cutting costs in the Federal Government, and one of its recommendations included the elimination of the Baldrige Program. The issue is whether the program has achieved its goal in promoting quality and performance and thereby adding value to the US firms and their investors. In this article, we examine academic research on the subject in order to shed some light on the debate.

The Malcolm Baldrige Nationality Quality Award was established by an act of Congress in 1987, during the Reagan Administration, to stimulate and reward product quality excellence. At that time, the goal of the Baldrige Award was to transform US businesses in the quality area, so they may stave of the stiff competition emanating from the global market place, especially Japan. As noted earlier, the award has been

International Journal of Quality & Reliability Management
Vol. 29 No. 2, 2012
pp. 233-240
© Emerald Group Publishing Limited
0265-671X
DOI 10.1108/02656711211199937

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renamed the Baldrige Performance Excellence Program. Noteworthy, the word "quality" is conspicuously left out, not because the focus on quality is less intensive but because to excel as an organization much more than quality is needed. The award is given by the President of the USA to manufacturing and service businesses, small and large, education and health care organizations, and nonprofit/government. Winners of the award must demonstrate exemplary performance in the following areas: leadership; strategic planning; customer focus; measurement, analysis, and knowledge management; workforce focus; operations focus; and results (NIST, 2011).

It is difficult to fathom that an award that is responsible for making quality a national priority and inculcating a culture of continuous improvement in organizations would come under intense criticisms with respect to its costs and benefits. This passionate debate has pillared industry leaders and academics on both sides of the isle. Advocates of the award see it as a necessity for doing business in an ever expanding and increasingly competitive global market place. Garvin (1991) notes that the Baldrige Award is "a strong predictor of long-term survival and a leading indicator of future profitability".

On the other hand, critics normally refer to the enormous investments that organizations have to make to win the award without realizing a positive impact on shareholders' wealth. For example, after reviewing a worldwide study conducted by Ernst & Young on quality, Sherman (1992) reports that many businesses waste millions of dollars a year on quality improvement strategies that do not improve their performance and may even hamper it. Some critics question whether the award is even indicative of good quality. Cadillac, a 1990 winner, is frequently cited as an automobile that has yet to achieve top ranking in most surveys such as Consumer Reports and J.D. Powers on automobile quality. Further, the pitiful financial performance of some past winners, including among others, Xerox, Motorola, Wallace Company, and Federal Express, have led critics to opine that the award is not suggestive of a company's competitiveness and profitability.

In response to the National Commission on Fiscal Responsibility and Reform proposal to get rid of the Baldrige Program, Paul Borawski, Chief Executive Officer of the American Society for Quality (ASQ), one of the world's leading organizations devoted to quality, writes in a letter to the commission:

> [...] Baldrige is far more than just an awards program; it's a **culture of performance excellence**. While the Program has touched hundreds of thousands of American citizens in overwhelmingly beneficial ways, it directly provides a significant economic payback to America far exceeding the underlying cost of the program. From the employees of the Program applicants (those who apply for the award and use the Baldrige framework to improve their operations) to the customers of these organizations who benefit from the focus on customer service and efficient management structure, participants in the Baldrige community strive to implement the principles of Baldrige in a way that measurably improves the fabric of American society (ASQ, 2010).

Our investigation of the financial performance of the Baldrige Award winners is motivated both by the Federal Government's action to put on the chopping block the Baldrige Program, and the intense debate that still encompasses the financial performance of Baldrige Award winners. We examine academic and professional research on whether the award adds value to firms and their investors. We find that in general the academic research supports the notion that winning the Baldrige Award is viewed positively by investors and enhances the market value of the firm.

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However, there is very limited research in this area. Particularly, there is no research that studies the long-term performance of winning firms.

Review of previous studies

One of the first studies on the financial performance of the Baldrige Award winners was conducted by Helton (1995). In the experiment, winners' shares or those of their parent companies were hypothetically purchased the day the Baldrige Award winners had been announced by the US Commerce Department. In what Helton calls the "Baldie play", an investment of $1,000 in each publicly owned quality award winner increased by 99 percent from 1991 through September 1, 1994. This Helton (1995) asserts corresponds favorably to a 41.9 percent gain on principal if the same dollars had been invested in the Dow Jones Industrials or a 34.1 percent gain if invested in Standard and Poor's (S&P's) 500 stocks on the award dates. The National Institute of Standards and Technology (NIST Stock Investment Study: 1994 through 2004, available at: www.nist.gov/baldrige/publications/archive/stock_studies.cfm) in a similar study, reported that Baldrige Award winners had enjoyed tremendous increase in shareholders' wealth. According to the NIST, depending on the time horizon covered, publicly traded Baldrige Award winners outperformed the S&P 500 index by as much as three to five times. Although the cardinal aim of both of these studies was to relate quality to financial performance, they lacked statistical rigor by failing to control for other factors that affect the financial performance of a company. Previous studies have shown that without adequate controls for variables such as size, industry effects, asset efficiency, growth, risk, profitability, financial performance prior to winning the award, one ought not to conclude that the Baldrige companies' stellar market return performance over the S&P 500 companies was because of improvements in product quality and/or winning the award (Hendricks and Singhal, 1996; Jacob *et al.*, 2004). Indeed, without adequate controls, it is also plausible that variables other than quality were responsible for the Baldrige Award winners' enhanced market returns.

In a 1994 study, Wisner and Eakins argue that since previous studies have shown that product quality is directly correlated with financial success, a financial analysis of Baldrige Award winners will help determine if the Baldrige Award is a meaningful indicator of product quality leadership. These authors examine both accounting and stock market performance for four Baldrige Award winners that are publicly traded and are not subsidiaries or divisions of other firms, and four privately held Baldrige Award winners. Using financial information from Value Line, Standard & Poor's, and Disclosure, Wisner and Eakins (1994) calculated the following profitability and stock market-based ratios to assess the financial performance for the four firms since 1987, one year prior to the first Baldrige Award: annual sales, the average five-year sales growth, the return on sales, return on assets, return on net worth, price earnings ratio, earnings per share, and the five-year average earnings per share growth. Wisner and Eakins (1994) conclude that the financial performance of the four publicly traded firms was mixed. Their results show that "during a period of economic recession all four firms experienced significant sales growth over the period of investigation". According to Wisner and Eakins (1994), the four privately held award winners, responding to a questioneer, cited improvements in competitive characteristics within their industries and attributed that success to their quality programs. However, they also note that two of the four firms experienced declining profitability from 1989 to 1992.

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Ramasesh (1998), using an event study methodology which is common in the accounting and finance literature, examines the short-term impact of the Baldrige Award announcement on aggregate investment behavior or shareholders' wealth. Ramasesh argues that if critics are right in their assessment that pursuing the Baldrige Award is economically irrational given the huge investment needed to win it, then one should observe around the date of the announcement negative abnormal returns on the stock. This negative abnormal return would be a result of "shorting" the stock.

Using closing price data from the Dow Jones News Service and daily return data from the Center for Research in Security Prices, Ramasesh (1998) documents no abnormal security return for 13 Baldrige Award winners around the date of the announcement. However, for the small cap firms in his sample, he detects statistically significant positive excess return on the day of the award announcement. The author explains this anomaly by noting that since small cap companies tend to have a smaller following among market participants than large cap firms, the winning of the Baldrige Award represents new positive information to investors, indicating enhanced future performance and profitability. On the other hand, the incremental value of the information of the announcement of a quality award for large cap companies is not likely to be construed as significant new information since these firms are to begin with well managed and closely followed by the investment community.

To further clarify the small cap results, Ramasesh (1998) did a longitudinal study of some profitability ratios on Solectron, which won the award in 1991. His results are somewhat mixed, although the author claims Solectron showed a consistent improvement in operating and profitability performance in the years subsequent to winning the award.

Unlike the previous studies discussed, the Ramasesh study is rooted in market data and statistically rigorous. However, event studies can be sensitive to the specification of the event window, other news being disclosed contemporaneously with the event being studied, and the inherent limitations of the market model.

Przasnyski and Tai (2002) in their endeavor to measure more realistically the financial performance of the Baldrige winners conducted the following analysis:

(1) evaluation of the stock market reaction to the announcement of winning the Baldrige Award (event study);

(2) analysis of the stock market performance of award recipients by adjusting for market and industry effects and by calculating annualized returns;

(3) illustration of the risk-return relationship between award recipients and the S&P 500 index; and

(4) determination of the long-term impact of buying and holding shares of the award winning organizations by calculating the Treynor Index and the Jensen Measure.

The event study results suggest that there was no market reaction (over a two-day window) to the announcement of the award. Przasnyski and Tai (2002) interpret these results as the market being semi-strong efficient, i.e. the benefits of winning the award are already impounded in the price of the stock given the long duration that generally exists from transforming to a quality organization to the actual winning of the award.

In the second part of their analyses, Przasnyski and Tai document that a portfolio comprising of Baldrige winners up to October 1, 1999 would have under-performed a portfolio of a control group of stocks with similar risk and industry characteristics

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by 17 percent. In the third part of their analyses, these authors report that after taking into consideration stocks' risk-return tradeoffs, only about half of the Baldrige winners were above the security market line, i.e. outperformed the market. Finally, to put into perspective the Helton and NIST studies, alluded to earlier, Przasnyski and Tai (2002) show that after adjusting for risk and market movement, a fictitious mutual fund, consisting of all the award winners to October 1, 1999 outperformed stocks with similar risk. When taking together, their results are mixed even though there was a significant improvement in the methodology relative to some earlier studies.

Jacob *et al.* (2004) focus on firm valuations and compare the firm value between award winners and their industry benchmarks. Using a multivariate regression model, they find that the Baldrige Award winners are valued higher in a variety of valuation models. These valuation differences persist after controlling for other factors that are known in literature to affect firm value. For example, these authors control for size, leverage, profitability, capital expenditures, R&D expenditures, and advertising. Their results are consistent with the notion that investors recognize that Baldrige Award winners are as of high quality and are willing to pay a premium for their stock than their industry counterparts. In an attempt to study whether winning the award causes any differences in valuation, Jacob *et al.* (2004) compare firm value across different years; the year awards are announced and the years before and after the awards. They find that valuation differences between winning firms and their industrial counterparts are consistent across all different years. Their results suggest that award winners are superior financial performers in their industries even before winning the award. However, they were unable to ascribe any value to the firm subsequent to the receipt of the award. High-quality management should eventuate in greater financial performance which is ultimately manifested in higher stock market returns for a firm's stock. To exam whether high-quality management, as indicated by the Baldrige Award, leads to greater stock market performance, this study must be extended to include short- and long-term stock market returns.

In a more recent study, Balasubramanian *et al.* (2005), using an event study methodology, examine the stock market return of several Baldrige and J.D. Powers and Associates Award winners. (Since our study is only concerned with the financial performance of Baldrige firms, we do not discuss the results of this study for the recipients of the J.D. Powers and Associates Award.) Using an event window of $(-1, 0)$, where 0 is the date of the announcement of the award and -1 is the day preceding the announcement date, these authors' results show that there is a significantly positive abnormal return on the day of the announcement of the award for the 34 firms in their sample. No statistically significant abnormal return was detected on the day preceding the award; this suggests that the market failed to anticipate the award. In essence, there is no leakage of information on the expected award recipients. A multiple regression was also run to try to explain the abnormal return during the announcement period $(-1, 0)$ as a function of size, efficiency, growth opportunities, and profit margin. Their results reveal none of these independent variables could explain the abnormal return during this window.

To further test whether the Baldrige Award had an impact over a longer time horizon, Balasubramanian *et al.* (2005) also calculated abnormal returns for six, 12 and 18 months. These results were not statistically significant. The study only detects abnormal returns on the announcement date. It does not further explore the source of this abnormal return. It is hard to determine whether the abnormal return is just an announcement effect or a reaction to information announced in the award.

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Further the study focuses on a two-day short-term window, it does not answer the question whether the Baldrige Award winners perform consistently better than other firms going forward, particularly in the financially trouble times of the internet bubble in 2000 and the financial crisis of 2009. Also, since event studies tend to focus on the abnormal returns of the entire firm and the Baldrige Award may be given to a firm's division, it is unclear whether the use of this methodology is capable of capturing all the quality enhancement efforts that are taking place.

Discussion and conclusion

After reviewing the above studies, our conclusion is somewhat nuanced. The studies that lacked statistical rigor, for example, the NIST studies, which claimed that cumulative stock returns on Baldrige winners were almost three to five times higher than that earned on a portfolio comprising of S&P 500 stocks, failed to control for variables such as size, risk, asset efficiency, industry effects, profitability, and growth, just to name a few. Not controlling for these variables, which clearly affect financial performance, precludes one from concluding that the stellar performance of some Baldrige Award winners was a result of improved quality management. We summarized two studies that used the event study methodology. Although event studies do control for other market factors that affect shareholders' wealth, they may be extremely sensitive to the specified windows and other contemporaneous signals that can affect abnormal returns. First, Ramasesh (1998) failed to document any excess returns for Baldrige Award large cap winners. However, Ramasesh did claim that there were some significant abnormal returns for the small cap Baldrige companies in his sample. Second, Balasubramanian *et al.* (2005) did report significant positive abnormal returns for firms on the announcement date of the award. However, a closer examination of their results revealed that 16 of the 34 firms in the sample did have negative abnormal returns. When these authors extended the event window for six, 12 and 18 months, no significant results were found.

The Jacob *et al.* (2004) study used a multivariate regression model, industry benchmarks, match-paired samples, and control for other firm characteristics that affect shareholders' wealth. Their results suggest that award winners are superior financial performers in their industries and are valued higher by investors compared to similar sized firms and industry benchmarks. However, these authors did not find any evidence indicating that winning the award *per se* causes changes in firm value in the award year and subsequent years.

Like Hendricks and Singhai (2001), we believe that the true financial impact of a renowned quality program such as Baldrige is realized over a long-time horizon ranging from about five to ten years. This also seems to be the view of some of the recipients of the Baldrige Award. Because of the paucity of data, no study, with adequate controls, has examined shareholders' return over an extended time horizon such as, for example, ten years. It should be remembered also that the wealth impact of quality is only one crucial outcome measure of a quality program. A significant payback can be attributed to the lasting culture of continuous improvement that may be embedded in an organization that may not even be interested in winning the award, but just implemented the Baldrige criteria as a goal to organizational sustainability for performance excellence. Clearly, quality programs such as continuous improvement efforts require the transformation of organizational culture which may often take several

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years to accomplish. Likewise, their impact, which may take a very long time to detect, is likely to be missed in short-run studies. Also, the effect of quality is generally observed in customer satisfaction, customer loyalty, and employee satisfaction. These variables and their interactions are difficult to quantify but may be related to the gaining of significant market share in the long run. Further, it takes a long time to build the trust and credibility required to ensure customer loyalty. Current Baldrige research with its accentuation on financial performance in the short run systematically overlooks management effectiveness and ability to control costs in all the operations of the organization. It is also important to recognize that the Baldrige Award, to some extent, is also actually evaluating the steps that organizations are taking to transform themselves to a "quality" organization and does not conclusively say that quality has already been achieved. Given the several thousands of applications that are distributed each year and the small number of award winners, it may well be that the real impact of the Baldrige Quality Program may lie with those organizations that embrace the Baldrige criteria but are not contesting for the award.

The mission of the old "Baldrige National Quality Program" is now encapsulated in its new name, "Baldrige Performance Excellence Program". The criteria organizations must meet to achieve this newly named Baldrige Award emphasizes excellence in total organizational quality, not just excellence in product, service, and customer quality. As the NIST (2011) asserts on its web site:

> No matter the size or nature of your organization, the criteria are a guide in your journey toward performance excellence. They can help your organization align resources; improve communication, productivity, and effectiveness; and achieve strategic goals.

From the above discussion, we conclude it would be a terrible mistake for the Federal Government to eliminate the Baldrige Performance Excellence Program in such challenging economic times.

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