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WAS THE DOLLAR TREE – FAMILY DOLLAR MERGER SYNERGIC?: FINANCIAL STATEMENTS ANALYSIS

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ABSTRACT

Purpose- Family Dollar and Dollar Tree were the second and the third largest firms in the discount variety store industry in the United States of America. In July 2014, Dollar Tree made an offer to acquire Family Dollar, citing potential synergy. In this study, we examined whether the expected benefits from the Dollar Tree-Family Dollar merger materialized.
Methodology- We examined the pre-merger and post-merger performance of the two companies by analyzing the companies' annual financial statements. Improvements in performance of the merged company should be reflected in better financial ratios for the post-acquisition period compared to the pre-acquisition period.
Findings- We found an across-the-board improvement in the financial ratios and a possible decrease in systematic risk after the merger of the two companies.
Conclusion- Our analysis of financial statements indicates possible synergy in the merger of Dollar Tree and Family Dollar.

Keywords: Financial statements, financial ratios, performance, merger, pre and post-merger analysis
JEL Classification: G34, M41

1. INTRODUCTION

Financial statements and their accompanying notes contain a wealth of useful information regarding the financial position of a company, the success of its operations, the policies and strategies of management, and insight into its future performance. The objective of this research paper is to find and interpret this information to answer questions about Dollar Tree, Inc. Dollar Tree acquired Family Dollar in 2015, motivated by potential synergy between the two companies. Almost three years have passed since the acquisition. By examining the financial statements of Dollar Tree and Family Dollar over time, we try to find if there is any evidence of synergy since the acquisition. Although a company's performance is influenced significantly by its management, factors beyond its control such as industry-wide and economy-wide factors could also have an impact. To control for these effects and evaluate the performance relative to the industry, we compare the performance of Dollar Tree with Dollar General which was the largest company in the industry before the Dollar Tree-Family Dollar merger and the second largest company after.

Examination of financial statements addresses significant questions such as "would an investment generate attractive returns? What is the degree of risk inherent in the investment? Should existing investment holding be liquidated? Does the company provide a good opportunity for employment, future advancements, and employee benefits?" The financial statements and other data generated by the three companies for the past ten years can help us answer some of these questions as well as many others. For our analysis, we mainly use the annual reports published by the companies primarily for the shareholders and the public. The Securities and Exchange Commission requires large, publicly held companies to annually file a 10-K report. This filing is generally a detailed document, which regulators, analysts, and researchers use. We will explain and interpret the financial statements and supplementary data contained in these financial statements.

2. LITERATURE REVIEW

The three companies discussed in this study are Dollar Tree, Family Dollar, and Dollar General. Of the three, Dollar General is the oldest. Dollar General began its operations in 1939 as a family owned business in Kentucky, with the name J.L. Turner and Son. In 1968, it went public with its new name, Dollar General. In July 2007, Dollar General was acquired by private equity investors. It went public again in August 2009 with Richard W. Dreiling as the CEO and Chairman of the Board.

Leon Levine opened Family Dollar in Charlotte, North Carolina, in 1959. He first considered buying a franchise of Dollar General but decided to start his own company. Eleven years later, in 1970, Family Dollar had its initial public offering. When Leon Levine retired in 2003, his son Howard R. Levine succeeded him as Chairman and CEO.

Dollar Tree, the youngest of the three companies, traces its origin to Ben Franklin store—a variety store—started by K. R. Perry in 1953 in Norfolk, Virginia. Subsequently, K. R. Perry, along with others, started chain stores called "Only $1.00." At inception, the company had only five stores—one in Georgia, one in Tennessee and three in Virginia. The name of the company was changed from "Only $1.00" to Dollar Tree in 1993 and went public on March 6, 1995. In 1999, Bob Sasser was hired as its Chief Operating Officer. He was promoted to CEO in 2004.

Although all three companies focused on selling household and variety products at a low price, Dollar General and Family Dollar had more in common with each other than with Dollar Tree. Dollar Tree followed a single-price format, meaning it sold the products at one price, mostly a dollar (or below), whereas Dollar General and Family Dollar sold products priced over a range, up to ten dollars.

The financial crisis of 2007 brought good times for the discount variety store business. However, as the market began to slow down, Family Dollar was affected considerably and became a potential target for acquisition. Dollar General seemed an ideal company to acquire Family Dollar because of their similarities in products and pricing strategies. Ironically, these similarities stood in the way of a merger of the two.

Family Dollar and Dollar General held talks regarding a possible merger of the two companies. However, in a surprise move, on July 28, 2014, Family Dollar announced that it agreed to be acquired by Dollar Tree for an 80/20 cash/stock deal, worth $8.5 billion—a 23% premium of Family Dollar stock price at the time. A few days after the announcement, on August 18, 2014, Dollar General made an all cash $9.7 billion bid to acquire Family Dollar. Leon Levin, the then CEO of Family Dollar, was not in favor of the Dollar General offer because of the regulatory issues the merger would bring. He argued that as Family Dollar and Dollar General sold similar products and were competitors in most of their locations, there could be problems getting approval from the Federal Trade Commission. In Levin's opinion, the Dollar General deal would raise more objections by the regulators than the Dollar Tree deal. Levin also mentioned that although Dollar General had plenty of time to make an offer earlier it chose not to do so, thus questioning the motive behind the offer. In January of 2015, after a favorable review by the FTC, Family Dollar shareholders overwhelmingly approved the Dollar Tree offer, effectively ending Dollar General's acquisition attempts.

When Dollar Tree made the offer to acquire Family Dollar in July 2014, the offer was justified by citing potential synergies from the combined operation of the two firms. It was believed that the merger would result in annual savings of about $300 million from an increase in buying power, consolidation of distribution networks, and a wider range of product offerings. It has been about three years since the acquisition took place. In this study, we examine whether the expected benefits for the Dollar Tree-Family Dollar merger materialized.

3. DATA AND METHODOLOGY

Analysis of Dollar General, Dollar Tree & Family Dollar's Financial Statements

Financial statements provide insight into a company's status and lead to the development of policies and strategies for the future. It should be pointed out, that company management is responsible for preparing the financial statements. Researchers pay careful attention to the financial statements' notes and supplement their analysis with other material in the annual reporting and sources such as pre and post-merger analysis.

Before beginning the analysis of the Dollar General, Dollar Tree and Family Dollar financial statements, it is necessary to specify the objectives of the analysis. The primary purpose of the paper is to examine whether the acquisition of Family Dollar by Dollar Tree resulted in improved performance. We analyzed performance by the commonly used financial ratios that measure a firm's activity: profitability, costs, etc. To compare the post-merger performance with pre-merger performance, we computed the financial ratios for the pre-acquisition and post-acquisition time-periods. During the pre-acquisition period Dollar Tree and Family Dollar were two independent firms. Therefore, to compare their pre-and post-merger performances, we created a hypothetical company (a combination of the two) by pooling the accounting figures of Dollar Tree and Family Dollar. We refer to the pooled data of the two companies as "Dollar Tree+Family Dollar."

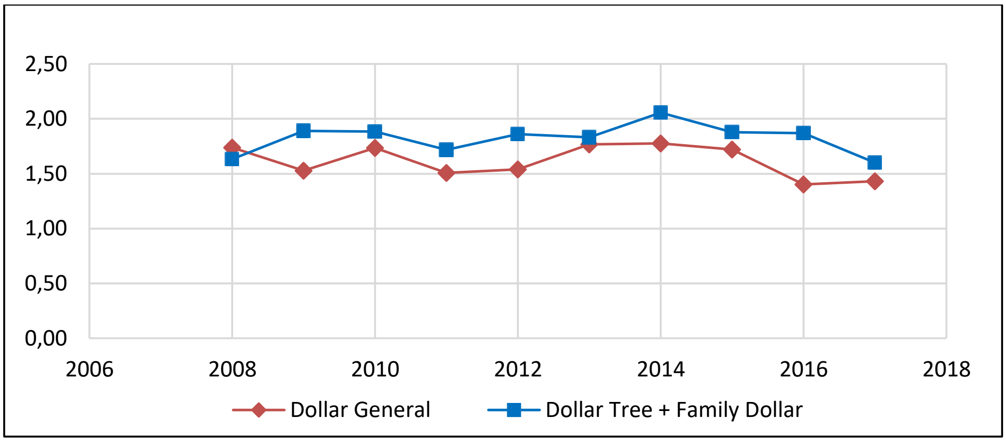
After the merger, the name of the combined company has been Dollar Tree. Therefore, reference to Dollar Tree for the post-merger years-- 2015, 2016, and 2017--indicates the merged companies. Improvements in performance of the merged company should be reflected in better financial ratios for the post-acquisition period compared to the pre-acquisition period. However, performance of a firm could also be affected by factors not under the firm's control, such as unexpected changes in the industry and the wider economy. To control for these external factors and check the performance relative to the industry, we computed the same financial ratios for Dollar General, a company that operates in the same industry and is comparable to Dollar Tree in several aspects.

4. FINDINGS AND DISCUSSIONS

4.1. Liquidity Ratios: Short-Term Solvency

Current Ratio is a commonly used measure of short-term solvency, the ability of a firm to meet its debt requirements as they come due. Current Liabilities are used as the denominator of the ratio because they are considered to represent the most urgent debt, requiring retirement within one year or one operating cycle. The available cash resources to satisfy these obligations must come primarily from cash or conversions to cash of other current assets. The trend of current ratio for Dollar Tree + Family Dollar ranged from 1.6 to 2.0 for the past 10 years. As shown in Figure 1, this ratio for the post-merger period declined slightly for Dollar Tree but compares well with its main competitor Dollar General.

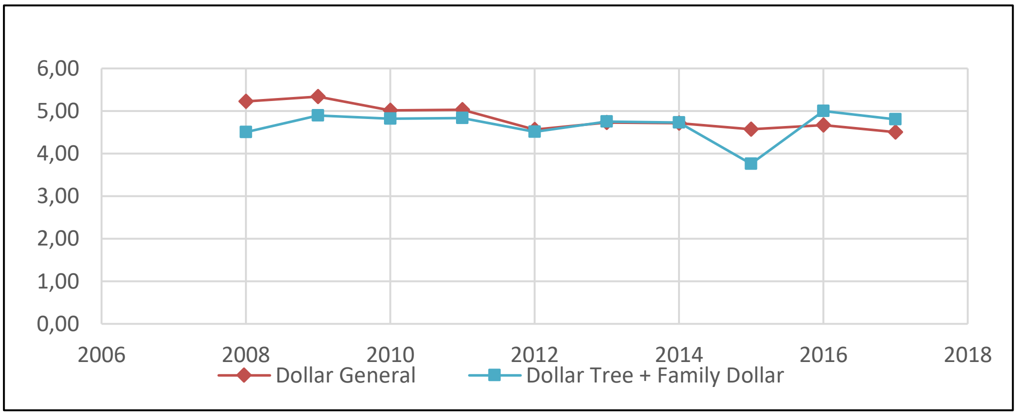
Figure 1: Current Ratios for the Pre-merger (2008-2014) and Post-merger (2015-2017) Periods



4.2 Activity Ratios: Asset Liquidity, Asset Management Efficiency

Inventory turnover measures the efficiency of the firm in managing and selling inventory. It is a gauge of the liquidity of a firm's inventory. The ratio is calculated with net sales in the numerator and average inventory as the denominator. As shown in Figure 2, the inventory turnover for Dollar Tree + Family Dollar ranged between 4.5 and 5 over the pre and post-merger periods. In 2015 the ratio dropped, but it recovered significantly after 2016 and showed a better turnover compared to Dollar General, although the difference is not much.

Figure 2: Inventory Turnover Ratios for the Pre-merger (2008-2014) and Post-merger (215-2017) Periods



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This is a sign of efficient inventory management; a faster inventory turnover, after acquisition period, implies a higher profit for the merging companies.

4.3. Profitability Ratios: Overall Efficiency and Performance

Return on Assets indicate the profit earned relative to the level of investment in total assets. As shown in Figure 3, the pooled data of Dollar Tree and Family Dollar indicate that the ROA had been declining since 2012. The steepest decline for the merged firm was in 2015, the first year after the merger. The substantial decline in the performance of the merged company during that year could be attributed to the merger activities and related expenses. However, after the merger, there has been considerable improvement in the profitability, as reflected in the increase in ROA. If the trend continues, its ROA could come back to the pre-merger level and even reach higher values.

Figure 3: Return on Assets for the Pre-merger (2008-2014) and Post-merger (2015-2017) Periods

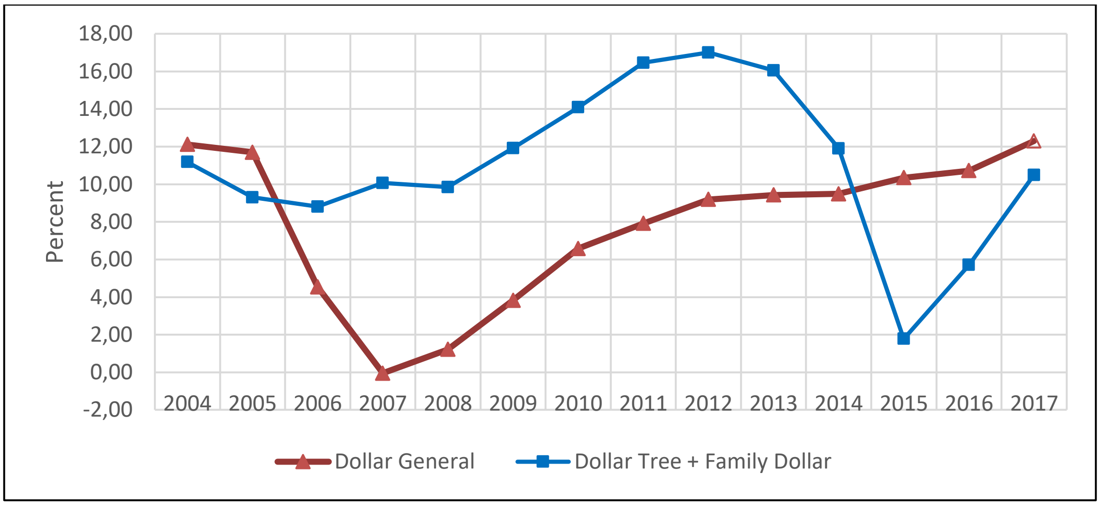

Figure 4 shows Net Income as a percentage of Net Sales for the Dollar Tree+Family Dollar pooled data for the pre-merger 2008-2014 period and the post-merger data. This ratio corroborates the ROA figures discussed above. The dramatic decline in net income in 2015 for Dollar Tree was due to the merger related expenses. It may be noted that in a very short time the ratio climbed back to the pre-merger level and surpassed not only its past record, but the its main competitor and our benchmark company, Dollar General. The trend in performance after merger shows a solid improvement from the acquisition.

Figure 4: Net Income as a Percent of Annual Net-Sales for the Pre-merger (2008-2014) and Post-merger (2015-2017) Periods

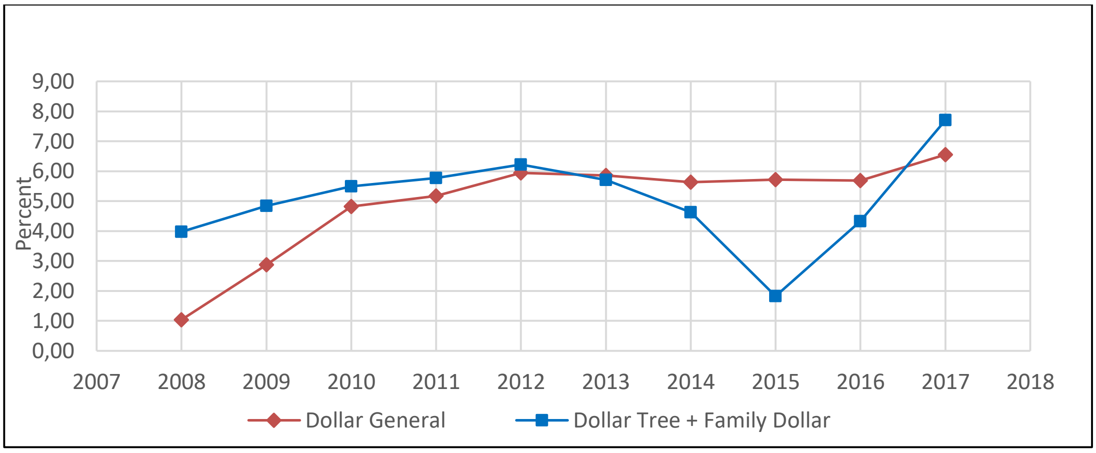

Figure 5 shows annual net sales of the three companies before the merger. We can note that Dollar Tree and Family Dollar were much smaller than Dollar General before the merger. The two companies were, individually, about half the size of Dollar General by sales.

Figure 5: Annual Net Sales for the Pre-merger Period

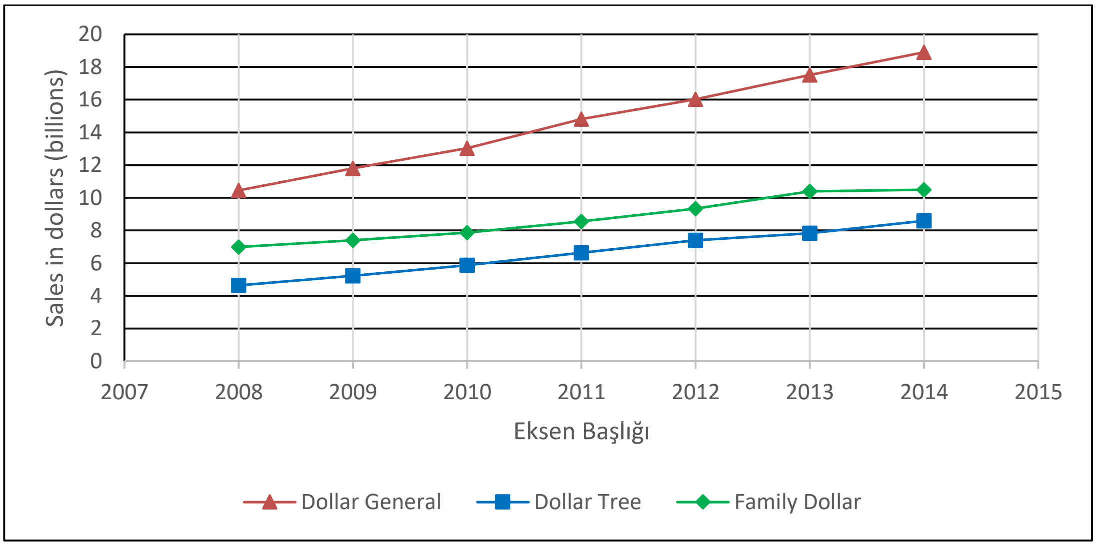

Figure 6: Annual Net Sales for the Pre (2008-2014) and Post-merger (2015-2017) Period

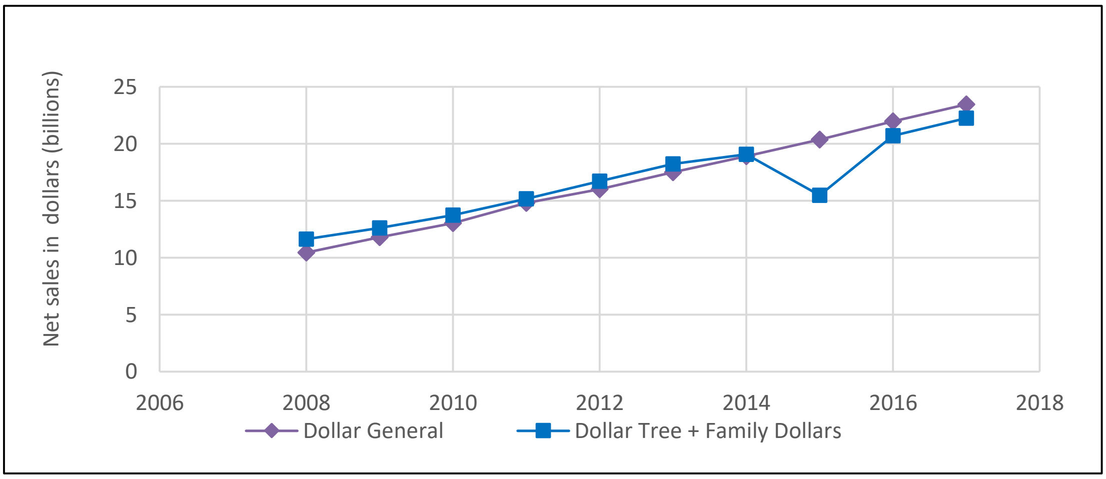

Figure 6 shows the annual net sales of the Dollar Tree+Family Dollar combination for the pre-merger as well as the post-merger periods. For the pre-merger period, we find the combined net sales of Dollar Tree and Family Dollar was just about the same as Dollar General. During the year immediately following the merger activities (2015), the net sales of the merged Dollar General decreased considerably. However, soon after that the net sales for the merged firm picked up significantly. By net sales, Dollar Tree still fell short of Dollar General, but only slightly.

Before the Dollar Tree + Family Dollar deal was approved, Dollar General was in fierce pursuit of Family Dollar. One of the reasons that the deal did not go through was that, without significant changes, the combination of Dollar General and Family Dollar would likely reduce the competition in that segment of the industry. The Dollar Tree-Family Dollar has probably resulted in greater competition in the industry because now there are two equally large companies in the industry.

The merger of Family Dollar with Dollar Tree also increased efficiency by reducing selling and administrative expense and that gives the merging company a competitive performance with Dollar General. Figure 7 shows Selling and Administrative expenses as a percent of net sales. The graph indicates that this ratio after the merger had improved considerably relative to its pre-merger values. The graph also indicates that Dollar General had consistently outperformed the Dollar Tree +

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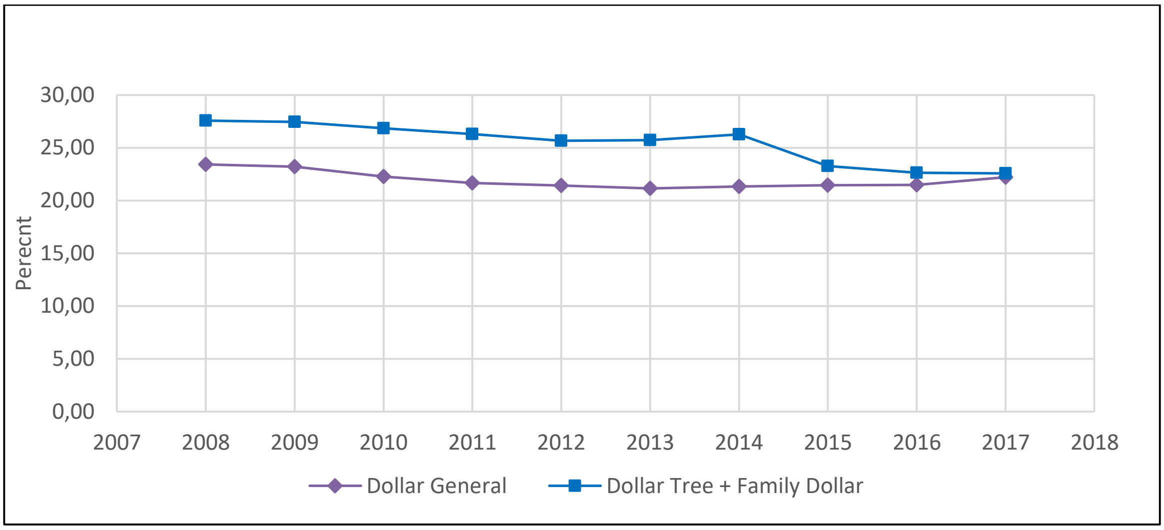
Family Dollar combination during the pre-merger period. In the post-merger period, although Dollar General maintained its performance, its competitive edge as reflected in this measure has declined relative to Dollar Tree. In the year 2017, both companies had the same selling and administrative expenditure as a proportion of net sales.

Figure 7: Selling and Administrative Expenses as a Percent of Annual Net Sales for the Pre-merger Period (2008-2014) and the Post-merger Period (2015-2017)



Systematic Risk

Textbooks show that a merger of two companies for the sole purpose of risk reduction could be value destructive. Such mergers, known as pure conglomerate mergers, that have no impact on the operations or profitability of the firms, incur only costs with no accompanying benefits. Investors can attain such risk reduction through portfolio allocation on their own at much lower costs. In this section we discuss whether the Dollar Tree – Family Dollar merger resulted in reduced risk, a risk reduction that investors might not have been able to achieve by themselves.

Systematic risk (beta) quantifies the non-diversifiable risk of an asset. It captures the relationship between a stock's returns and the market portfolio. The beta of a portfolio of two stocks is the weighted average of the betas of the individual stocks weighted by the proportion of investment on the individual stocks. To compare the betas of two companies before and after merger, we have to use the pre-merger market capitalization as weights and the betas of the two companies to compute the weighted average. The weighted beta can be compared with the post-merger beta to check if there has been any significant changes. Even in the absence of the knowledge of the market capitalization of the two companies, in certain cases, we could make some guesses. For example, assume the pre-merger beta of one company's stock is one and the beta of another company's stock is two. A pure conglomerate merger would result in a beta between one and two for the combined company's stock, as the resulting beta must lie between the individual companies' beta.

To document and examine any changes in the beta of Dollar Tree after acquisition, we estimated the beta for the periods before and after the merger. We used the monthly returns of stocks for the immediate past thirty-six months to estimate the beta for a given month. For example, to estimate the beta for January 2014 we used the returns for the preceding thirty-six months — from January 2011 to December 2013. Although generally betas are estimated using sixty monthly returns, we use thirty-six months because of data limitations. As it is not yet sixty months since the Dollar Tree-Family Dollar merger was voted on, we do not have the conventional sixty monthly returns to get this estimate. However, estimates with less than sixty monthly returns are not uncommon. For example, Yahoo. Finance, a popular financial web service, uses thirty-six monthly returns to estimate betas.

We estimated the beta for Dollar Tree as well as Family Dollar for every month from November 2012 – May 2014. We excluded the June 2014 – January 2015 period because the stock price of the companies we examined could have been affected more by the acquisition related news than the broad market forces that are relevant for estimating beta. Three major events pertaining to the merger took place in June, July, and August of 2014 that affected the stock price of Family Dollar significantly. In June 2014 Carl Icahn, an activist investor, announced that he had acquired 9.5% equity of Family Dollar. In July 2014 Family Dollar announced that it had agreed to be bought by Dollar Tree. In August 2014 Dollar General made a competing offer to buy Family Dollar. These announcements affected the price of Family Dollar significantly. We also excluded stock returns in the remaining months of 2014 and January 2015 from analysis because there was news about acquisition related activities until January 2015. In January 2015 Family Dollar stockholders voted overwhelmingly approving the Dollar Tree offer and ended the acquisition battle between Dollar Tree and Dollar General.

Figure 8: Estimates of Beta before the Merger

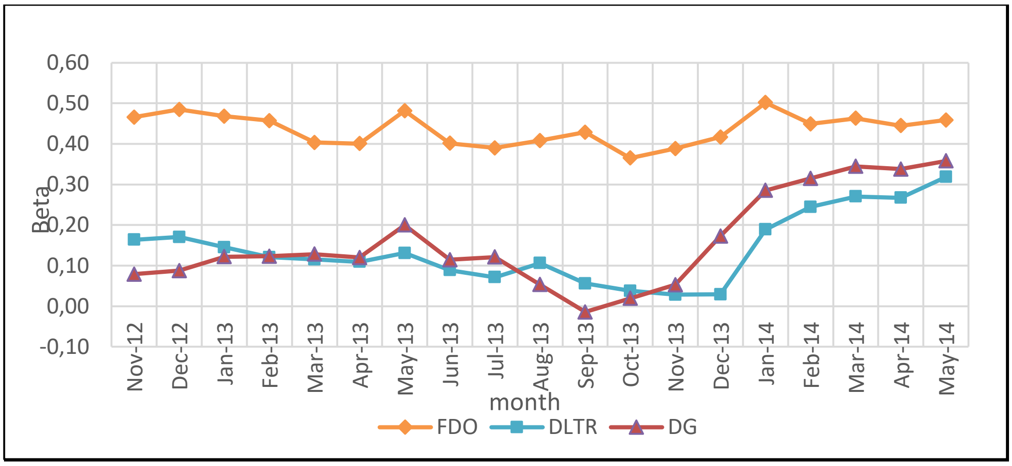
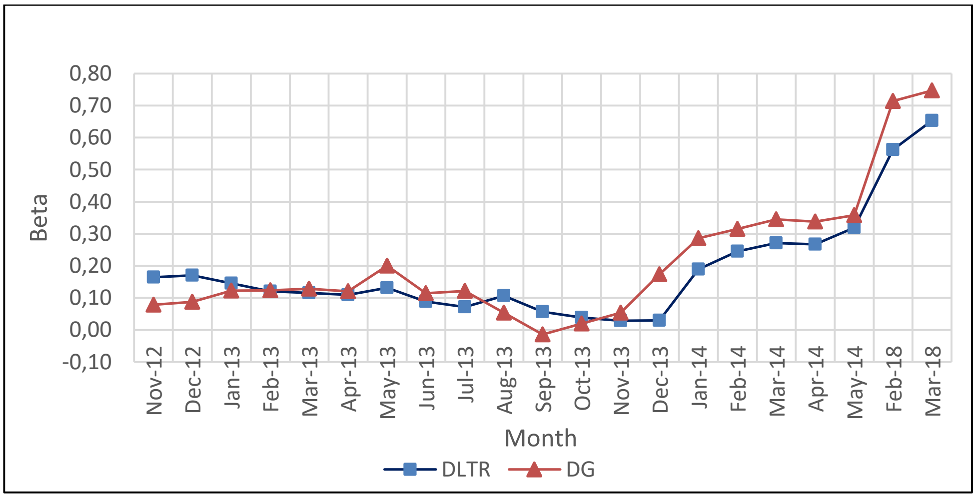


Figure 8 shows the estimates of beta for Dollar Tree, Family Dollar, and Dollar General before the merger. Although both Dollar General and Family Dollar had low betas (less than 1), Family Dollar's beta was relatively high—ranging between 0.40 to 0.50, about four times that of Dollar General. The estimates of betas of these two companies contradict the popular notion that these two companies were very much alike. In contrast, our analysis indicates that the betas of Dollar General were much closer to those of Dollar Tree during the pre-merger period. Both had almost the same betas, below 0.20 until the end of 2013 and started increasing in early 2014. Therefore, for the pre-merger period, for the Dollar Tree + Family Dollar combination the beta would have been higher than Dollar General's.

For the post-merger period, we could estimate beta for only two months—February 2018 and March 2018. As we needed thirty- six monthly returns to estimate beta, staring from the month after the voting on merger, the first month for which we could estimate beta was February 2018. We added the estimated beta for February 2018 and March 2018, the two months in the post-merger period to the pre-merger period estimates as displayed in Figure 9.

Figure 9 shows that, after the acquisition, the beta of Dollar Tree is less than the beta of Dollar General—just the opposite of pre-merger estimates—indicating that after the merger, the policies implemented by the merged firm could have reduced the systematic risk for the merged firm. This reduction in beta might not have been possible through portfolio reallocation by investors. It a benefit to the stockholders of Dollar Tree and Family Dollar that the companies could not have provided had they remained as independent firms.

Figure 9: Estimates of Beta for the Pre-merger Period (November 2012 – May 2014) and Post-merger Period (February and March 2018)



5. CONCLUSION

The analysis of the financial statements of Dollar Tree, Family Dollar, and Dollar General consist of a mixture of steps and pieces that interrelate and affect each other. No one part of the analysis should be interpreted in isolation. Short-term liquidity impacts profitability; profitability begins with sales, which relates to the liquidity of assets. The efficiency of asset management influences the cost and availability of credit, which shapes the capital structure. Every aspect of the three firms' financial condition, performance, and outlook affects the share prices.

Data indicates that the sales of (merged) Dollar Tree improved after an initial decline in 2015. During the same period, the sales of Dollar General had also increased. Therefore, the merger by itself does not seem to have resulted in significant increase in sales for Dollar Tree. It could have been an industry wide factor. However, during the post-merger period, Dollar Tree's operational efficiency increased, relative to the industry benchmark, as indicated by ratio analysis. Further, there seems to be some evidence of a reduction in systematic risk after the merger that the shareholders of Dollar Tree and Family Dollar could not have attained otherwise.

Our analysis shows that the merger of Family Dollar with Dollar Tree puts the merging company in a competitive edge with its rival Dollar General in all financial aspects and performance. The pre and post-merger data analysis indicates that, within a few years of the merger, there seems to be some evidence that Dollar Tree's prediction of potential synergies from merger is validated.

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