

Return on Capital and Cost of Capital: How does their Relation Affect Firm Value?

Halil D. Kaya

Corresponding Author: Associate Professor of Finance, Department of Accounting and Finance, College of Business and Technology, Northeastern State University, Broken Arrow, OK 74014; Email: kaya@nsuok.edu

Julia S. Kwok

Associate Professor of Finance, Department of Accounting and Finance, College of Business and Technology, Northeastern State University, Broken Arrow.

Elizabeth C. Rabe

CPA, Crude Marketing Analyst, IBM Global Process Services, Tulsa.

DOI: 10.6007/IJARBSS/v5-i5/1589 URL: <http://dx.doi.org/10.6007/IJARBSS/v5-i5/1589>

Abstract

The Great Recession of 2008-2009 hurt almost all of the companies' stock values in the United States. Interestingly, for Starbucks, the deterioration started a few years before the recession. From 2005 to 2007, the company's stock price declined by approximately 40%. This case encourages students to examine the company's return on capital, compare it to its cost of capital, and then relate this to the decline in the company's stock price. First, they will establish a single formula for return on invested capital. Then, they will calculate the return on invested capital for Starbucks in each year. They will learn about different costs of capital including cost of common stock, cost of preferred stock, and cost of debt. Then, they will debate whether cost of debt capital, cost of equity capital, or weighted-average cost of capital is the relevant number to compare to the company's return on invested capital. Overall, the case illustrates the importance of return on capital, the different types of cost of capital, and the overall cost of capital on a company's value.

Keywords: Financial Statement Analysis, Return On Capital, Return On Invested Capital, Cost Of Capital, Weighted-Average Cost Of Capital

JEL classifications: G32, L25, M21

1. INTRODUCTION

It was Monday morning, and at Momentum Capital Investments, a team of analysts was working on a task: evaluating Starbucks Coffee Company's performance and the decline in its stock price. Mr. Jacobs, the head of the team, had gathered all of the team members in the main meeting room. On the table, lattes, espressos, and cappuccinos were sitting in front of each team member.

"This tastes so good" sighs Mr. Jacobs while the other team members enjoyed theirs. "There is no comparison with this one and the other companies' products".

"We should have these meetings more often" said one of the junior analysts. "I agree, as long as it is not a Friday evening meeting" replied another analyst.

Although everyone in the room agreed on the superiority of Starbucks' products, the team members knew that something is wrong with the company. For this task, Mr. Jacobs wanted the two junior analysts, Michael and Jill, to take the lead. He asked them to make a presentation to the team regarding the company, its products, the competition, and the company's stock performance.

Michael and Jill made a short presentation to the team explaining Starbucks' history, its success until 2005, and then its decline over the 2005-2007 period. The company's share price had declined by 40% over the past two years (i.e. the 2005-2007 period).

One of the other team members joined the discussion: "I didn't notice that the decline has been this steep. A lot of investors should be frustrated with this". "Among them are some of our own investors" Mr. Jacobs added. "We need to find what is happening with the company. Until we find the reason or reasons for this drop, we cannot recommend this stock to any of our investors".

Mr. Jacobs wanted the team to first evaluate the company's returns and costs. He wanted to see if the company had been successful in covering its cost of finding capital. He asks "Why do you guys think the stock went down so much in just two years?"

Michael, one of the junior analysts, had just graduated from a reputable MBA program in the United States and he wanted to show what he knows to the team. He said "It may be due to different reasons like the competition, the macro environment, the regulations, and the effects of all of these factors on the company's profitability". Jill added "the management of the company, for example, its strategy in opening new stores, expanding into different countries, might have had an impact too".

"You are right" Mr. Jacobs added. All of these factors might have had an impact on the firm's revenues and expenses, and as a result, on its profitability numbers. All of these factors boils down to Starbucks' return on its invested capital and whether that return beats its cost of capital. I think we need to start from there".

2. COMPANY HISTORY

The team had already collected some information on Starbucks. On the company website, the history of the company was explained. The first Starbucks opened in 1971 in Seattle's historic Pike Place Market. In 1981, Howard Schultz (Starbucks chairman, president and chief executive officer) had first walked into a Starbucks store. He liked the company's products and joined a year later. In 1983, after travelling to Italy and trying Italian coffee bars, Howard wanted to bring the Italian coffeehouse tradition back to the United States. He left Starbucks for a few years and started his own coffeehouses. But, in 1987, he returned back and purchased Starbucks with the help of local investors.

Below is the company's timeline after this ownership change as shown on its website:

1988: Offers full health benefits to eligible full- and part-time employees.
Total stores: 33

1989: Total stores: 55

1990: Starbucks expands headquarters in Seattle.
Total stores: 84

1991: Becomes the first privately owned U.S. company to offer a stock option program that includes part-time employees.
Opens first licensed airport store at Seattle's Sea-Tac International Airport.
Total stores: 116

1992: Completes initial public offering (IPO).
Total stores: 165

1993: Opens roasting plant in Kent, Wash.
Announces first two-for-one stock split.
Total stores: 272

1994: Opens first drive-thru location.
Total stores: 425

1995: Begins serving Frappuccino® blended beverages.
Announces second two-for-one stock split.
Opens roasting facility in York, Pa.
Total stores: 677

1996: Begins selling bottled Frappuccino® coffee drink through North American Coffee Partnership.

Opens stores in: Japan (first store outside of North America) and Singapore.
Total stores: 1,015

1997: Establishes the Starbucks Foundation.
Opens stores in: the Philippines.
Total stores: 1,412

1998: Extends the Starbucks brand into grocery channels across the U.S.
Launches Starbucks.com.
Opens stores in: England, Malaysia, New Zealand, Taiwan and Thailand.
Total stores: 1,886

1999: Acquires Tazo Tea.
Partners with Conservation International to promote sustainable coffee-growing practices.
Acquires Hear Music, a San Francisco-based music company.
Announces third two-for-one stock split.
Opens stores in: China, Kuwait, Lebanon and South Korea.
Total stores: 2,498

2000: Establishes licensing agreement with TransFair USA to sell Fairtrade certified coffee in U.S. and Canada.
Opens stores in: Australia, Bahrain, Hong Kong, Qatar, Saudi Arabia and United Arab Emirates.
Total stores: 3,501

2001: Introduces ethical coffee-sourcing guidelines developed in partnership with Conservation International.
Introduces the Starbucks Card.
Announces fourth two-for-one stock split.
Opens stores in: Austria, Scotland, Switzerland and Wales.
Total stores: 4,709

2002: Establishes Starbucks Coffee Trading Company (SCTC) in Lausanne, Switzerland.
Launches Wi-Fi in stores.
Opens stores in: Germany, Greece, Indonesia, Mexico, Oman, Puerto Rico and Spain.
Total stores: 5,886

2003: Acquires Seattle Coffee Company, which includes Seattle's Best Coffee and Torrefazione Italia coffee.
Opens roasting facilities in Carson Valley, Nev., and Amsterdam, Netherlands.
Opens stores in: Chile, Cyprus, Peru and Turkey.

Total stores: 7,225

2004: Opens first Farmer Support Center in San Jose, Costa Rica.

Introduces Starbucks Coffee Master Program.

Opens stores in: France and Northern Ireland.

Total stores: 8,569

2005: Acquires Ethos Water.

Announces fifth two-for-one stock split.

Opens stores in: Bahamas, Ireland and Jordan.

Total stores: 10,241

2006: Launches the industry's first paper beverage cup containing post-consumer recycled fiber.

Opens stores in: Brazil and Egypt.

Total stores: 12,440

2007: Eliminates all artificial trans fat and makes 2 percent milk the new standard for espresso beverages.

Opens stores in: Denmark, the Netherlands, Romania and Russia.

Total stores: 15,011

The company had continually expanded its number of retail stores. In 2005 Starbucks announced its intention to double the number of retail stores and increase the number of customers to all stores (Starbucks Corporation 2009).

Starbucks continued to make a large expansion in 2005 and added 1672 stores during 2005. The total number of stores was 10,241. It continued to open new stores and by the end of 2007, it had 15,011 stores. The company's earnings per share grew from 63 cents to 90 cents per share over the period of 2005-2007 (see Exhibit 1). At the close of the 2007 fiscal year, the forecasted the opening of an additional 2500 stores in 2008 (Starbucks World 2009).

The company's stock price during this time first increased from the \$30.10 per share in December 2005 to \$35.42 per share a year later. Then, it declined sharply. The stock price dropped to \$20.47 as of December of 2007 (BUCX- Historical Prices for Starbucks Co –Yahoo! Finance 2009). Apparently, shareholders saw a problem.

3. FINANCIAL ANALYSIS

Mr. Jacobs continued: "We have the financial statements (Exhibits 1 and 2). I have also collected some additional data on the company (Exhibit 3). Mike and Jill, you can start from there". "If you need any additional help, I am available. Don't hesitate to consult with me. But, we have limited time. I need a report by the end of this week".

Michael was excited: "I have already computed the company's WACC (i.e. weighted-average cost of capital). It took me some time, but I found that the WACC for the company was 6.71% in 2005, 10.36% in 2006, and 10.40% in 2007".

"But, do we need the WACC, or the individual costs of debt and equity?" Jill asked.

"I am not sure. We need to look into that" Michael responded. Michael was embarrassed, he thought he should have known whether the WACC was their number. After a few seconds of silence: "Jill, have you worked on the numerical portion?" Michael asked.

"Sure. I have the formulas, but I want to have a single formula that would give us ROIC (i.e. return on invested capital) directly. We need to work on them a little bit. After having that specific formula for ROIC, we can enter the numbers and see how the company performed in each year" Jill replied.

The formulas that Jill had collected were:

$$\text{ROIC} = \text{NOPAT} / \text{CAPITAL}$$

$$\text{NOPAT} = \text{EBIT} * (1 - T)$$

$$\text{CAPITAL} = \text{NOWC} + \text{NET PLANT AND EQUIPMENT}$$

$$\text{NOWC} = \text{OPERATING CURRENT ASSETS} - \text{OPERATING CURRENT LIABILITIES}$$

"Then, we can evaluate how its return compares to its cost of finding capital. It should be pretty straightforward" Michael exclaimed.

Mr. Jacobs concludes "O.K. then. It looks like you are on the right track. But, be careful. To be sure, you need to research a few things here".

Exhibit 1 -Starbucks' Income Statements for Years Ending December 31 (in millions of dollars)				
	2007	2006	2005	2004
INCOMESTATEMENT				
Net sales	\$9,411	\$7,787	\$6,369	\$5,294
Operating costs	\$7,509	\$6,120	\$4,963	\$4,160
Selling, general and administrative expense	\$489	\$479	\$362	\$304
Earnings before interest, taxes, depreciation, and amortization (EBITDA)*	\$1,413	\$1,188	\$1,044	\$830
Depreciation and amortization	\$467	\$387	\$340	\$280
Earnings before interest and taxes (EBIT)	\$946	\$801	\$704	\$550
Non-operating income /expense (Income from Equity Investees and Net interest)	\$152	\$117	\$93	\$75
Less interest	\$42	\$11	\$1	\$0
Earnings before taxes (EBT)	\$1,056	\$907	\$796	\$625
Taxes	\$384	\$325	\$302	\$232
Net Income before preferred dividends	\$672	\$582	\$494	\$393
Preferred dividends	-	-	-	\$0
Income from continuing operations before extra ordinary items	\$672	\$582	\$494	\$393
Adjustment for extraordinary items		\$17		
Net Income before preferred dividends	\$672	\$565	\$494	\$393
Common dividends	\$0	\$0	\$0	\$0
Addition to retained earnings	\$672	\$565	\$494	\$393

Per-share Data				
Earnings per share, Basic (EPS) - not include diluted stocks	\$0.90	\$0.74	\$0.63	\$0.49
Dividends per share (DPS)	\$0.00	\$0.00	\$0.00	\$0.00
Book value of Equity per share (BVPS)	\$3.04	\$2.91	\$2.65	\$3.12

$$g = \text{the compounded growth rate of EPS} = (2007 \text{ EPS}/2004 \text{ EPS}) \boxed{21.87\%}$$

Source – Starbucks 2007 Annual Report. Data is provided by Research Insight

Exhibit 2 - Starbucks' Balance Sheet				
(in millions of dollars)				
	2007	2006	2005	2004
<i>Assets</i>				
Cash and equivalents	\$281	\$313	\$174	\$145
Short-term investments	\$157	\$141	\$133	\$508
Accounts receivable	\$288	\$224	\$191	\$140
Inventories	\$692	\$636	\$546	\$423
Prepaid Insurance and Lease	\$149	\$127	\$94	\$71
Deferred Income taxes (net) -Income taxes not paid	\$129	\$89	\$71	\$64
Total current assets	\$1,696	\$1,530	\$1,209	\$1,351
Long term investment (available for sale)	\$21	\$6	\$60	\$136
Equity and other investment	\$259	\$219	\$202	\$168
Net plant and equipment (net of depreciation)	\$2,890	\$2,288	\$1,842	\$1,551
Other assets	\$219	\$187	\$73	\$87
Other intangible assets (cash deposit from unearned sale)	\$42	\$38	\$35	\$28
Goodwill	\$216	\$161	\$93	\$69
Total assets	\$5,343	\$4,429	\$3,514	\$3,390
<i>Liabilities and equity</i>				
Accounts payable	\$391	\$341	\$221	\$199
Commercial paper and short term borrowings (Notes Payable)	\$710	\$700	\$277	\$0
Accruals (Compensation, Occupancy)	\$664	\$568	\$475	\$362
Accrued taxes	\$93	\$94	\$78	\$63
Other Liabilities	\$296	\$231	\$175	\$121
Current portion of long term debt	\$1	\$2	\$1	\$1
Total current liabilities	\$2,155	\$1,936	\$1,227	\$746
Deferred income taxes	\$0	\$0	\$0	\$21
Long-term bonds	\$550	\$2	\$3	\$4
Other long term liabilities (Deferred Rent, asset retirement obligations, etc.)	\$354	\$263	\$194	\$145
Total debt	\$3,059	\$2,201	\$1,424	\$916
Common stock (50,000,000 shares)	\$1	\$1	\$0	\$0
Paid in capital	\$39	\$39	\$130	\$996
Retained earnings (include repurchase of common stocks)	\$2,244	\$2,188	\$1,960	\$1,478
Total common equity	\$2,284	\$2,228	\$2,090	\$2,474
Total liabilities and equity	\$5,343	\$4,429	\$3,514	\$3,390

Source – Starbucks 2007 Annual Report. Data is provided by Research Insight

Exhibit 3 - Historical Data Collected for the Analysis

	2007	2006	2005	2004
Average common stock price (based on monthly prices)	\$27.85	\$35.34	\$26.78	\$22.59
Weighted Average of Shares Outstanding (in millions)	750	766	790	794
Tax rate	36.30%	35.80%	37.90%	37.30%
Beta of Starbucks (1)	1.25	1.24	0.32	0.44
Yield of Treasury Bond (2)				6%
Market returns (3)				10%

Note:

1. Beta of Starbucks is estimated from 3 years of monthly returns ended in December 07.

2. Annual Yield of Treasury Bond is estimated from an average of 25 years of annual returns of a 10-year Treasury Note, based on monthly basis, ended in December 07.

3. Annual Market return is estimated from an average of 25 years of annual returns, based on the monthly

S&P 500 Index, ended in December 07.

References

Yahoo Finance. (n.d.). BUCX- Historical Prices for Starbucks Co. Retrieved from <http://finance.yahoo.com/q/hp?s=SBUX&a=08&b=30&c=2005&d=08&e=30&f=2009&g=m>

Upstart Business Journal. (n.d.). It's a Starbucks World. Retrieved from http://74.125.95.132/search?q=cache:BduXV_ELLdEJ:www.portfolio.com/interactive-features/2008/06/Starbucks-World/+starbucks+number+of+store+openings+2005&cd=3&hl=en&ct=clnk&gl=us&client=firefox-a

Securities and Exchange Commission. (n.d.). Starbucks Company 2007 Annual Report. *Starbucks Form 10-K*. Retrieved from www.edgar-online.com.

Starbucks Corporation. (n.d.). Datamonitor Company Profiles Authority. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=dmhco&AN=E86AFA79-07E1-4115-AA0C-0016416541FE&site=ehost-live>.

Starbucks Corporation. (n.d.). Company Information. Retrieved from www.Starbucks.com