Corporate Finance Analysis of Health & Wellness Companies

Alicia Cowley - Dulce Duran - Bie Mwengela - Vitor Pontual
Benjamin Solomon - Jason Theobald - Stephanie Wu

Background Information – Summary of Companies

Johnson & Johnson is an American multinational medical devices, pharmaceutical and consumer packaged goods manufacturer founded in 1886. Johnson & Johnson is headquartered in New Brunswick, New Jersey with the consumer division being located in Skillman, New Jersey. The corporation includes some 250 subsidiary companies with operations in over 57 countries and products sold in over 175 countries. Johnson & Johnson's brands include numerous household names of medications and first aid supplies. The company will be denoted in this report by its traded symbol: **JNJ**.

Town Sports International Holdings is an operator of fitness centers in the Eastern United States. Its brands include New York Sports Clubs, Boston Sports Clubs, Philadelphia Sports Clubs and Washington Sports Clubs. Founded in 1973 and based in New York City, TSI Holdings operates over 155 clubs with approximately 483,000 members. The company will be denoted in this report by its traded symbol: **CLUB**.

Lululemon Athletica Inc. is a yoga-inspired athletic apparel company, which produces a clothing line and runs international clothing stores from its company based in Vancouver, British Columbia, Canada. The company will be denoted in this report by its traded symbol: **LULU**.

Hologic Corporation is a developer, manufacturer and supplier of diagnostic and medical imaging systems related to women's health. It develops digital imaging technology for general radiography and mammography applications. Its core business units are focused on osteoporosis assessment, gynecologic health, mammography and breast biopsy, direct-to-digital x-ray for general radiography applications and mini C-arm imaging for orthopedic applications. The company will be denoted in this report by its traded symbol: **HOLX**.

Cardinal Health Inc. is a Fortune 500 health care services company based in Dublin, Ohio. The firm specializes in distribution of pharmaceuticals and medical products, serving more than 60,000 locations. The firm also manufactures medical and surgical products, including gloves, surgical apparel and fluid management products. On December 10, 2013, it was announced that Cardinal Health would team up with CVS Caremark, which would form the largest generic drug sourcing operation in the United States. The company will be denoted in this report by its traded symbol: **CAH**.

CVS Pharmacy, founded in 1963 and based in Woonsocket, Rhode Island, is the second largest pharmacy chain after Walgreens in the United States and is the second largest US pharmacy based on total prescription revenue. CVS sells prescription drugs and a wide assortment of general merchandise, including over-the-counter drugs, beauty products and cosmetics, film and photo finishing services, seasonal merchandise, greeting cards, and convenience foods through their CVS Pharmacy and Longs Drugs retail stores and online through CVS.com. The company will be denoted in this report by its traded symbol: **CVS**.

Quest Diagnostics Inc., founded in 1967 with corporate headquarters located in Madison, New Jersey, Inc., it became an independent corporation with the Quest name in 1997. In addition to the United States, Quest Diagnostics also runs operations in United Kingdom, Mexico, Brazil, Puerto Rico and a laboratory in India and also has collaborative agreements internationally with various hospitals and clinics. The company offers access to diagnostic testing services for cancer, cardiovascular disease, infectious disease and neurological disorders. The company will be denoted in this report by its traded symbol: **DGX**.

I. Corporate Governance Analysis

For this analysis we've analyzed several companies in the Health & Wellness sector. The analysis includes companies in the Pharmaceuticals, Recreation, Apparel, Healthcare Products, Healthcare Support Services and even Retail (Special Lines). Even with this spectrum we have found some interesting similarities in the executive leadership of these companies. First, while each one of our companies has been around for at least 17 years (and much more in some cases) almost all of them has had a CEO that has only been in that position for a few years. And when considering how long those CEOs have been with the company before becoming the CEO, only two of them have been with the companies for more than 7 years.

The Board of Directors of these companies shows another example of these companies having similar set ups. The average number of members on the Boards are 11 members with CLUB being one with the lowest count at 8. Interestingly, CLUB also is the only company that does not have any insiders in the board. This may give it a better positioned Board that is able to make a decision that goes against the CEO in any important company decision. A recent Wall Street Journal article summarized the results of some research that found that smaller boards tend to get bigger returns, mostly due to their ability to move more quickly. In the research the average company board size seen was 11.5 members while the average small board size was 9.5. Given these metrics CLUB's Board meets the qualification to be called a small Board compared to the other companies we've analyzed. This finding helps conclude that CLUB's Board should be more effective than the average company in this analysis[1].

We also see that none of the Board members serve as executive members in our selected companies. This helps us believe that the companies won't act in a biased way toward each other but three of the CEOs serve on the Board of a different company, with two of those three serving on three additional Boards.

CEO Summaries	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Name	Alex Gorsky	Daniel Gallagher	Laurent Potdevin	Stephen MacMillan	George Barrett	Larry Merlo	Stephen Rusckowski
Salary	$1.5M	$0.35M	$0.9M	$1.0M	$1.314	$1.35M	$1.05M
Age	54	46	47	50	59	59	57
Years at the Company	6	16	1	1.5	7	18	3
Years as the CEO	3	<1	1	1.5	6	4	3
Board Memberships	IBM	0	0	3 others	0	0	3 others
Stock Ownership	0.004%	0.72%	0.026%	0.12%	0.73%	0.05%	0.06%

Board of Directors	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
# of Members	13	8	11	12	11	11	10
# of Insiders	1	0	1	2	1	1	1
% of Insiders	8%	0%	9%	17%	9%	9%	0%
CEOs at other Companies	1	1	0	1	7	0	1
CEOs at related Companies	No	No	No	Yes	Yes	No	Yes

[1] http://www.wsj.com/articles/smaller-boards-get-bigger-returns-1409078628

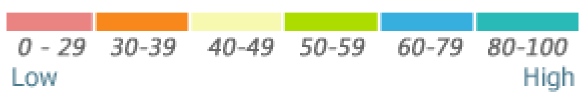
Analysts	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
# of Analysts	38	11	54	36	34	42	37
# Buy	9	1	14	8	12	17	2
# Sell	0	0	1	1	0	0	3
# Hold	7	2	12	7	3	1	14
Mean Recommendation	2.5	2.5	2.5	2.1	1.9	1.8	3.1

(Strong Buy) 1 - 5 (Sell)

Analysts list all of our companies with favorable recommendations with most receiving a slightly above average recommendation to buy shares. Nasdaq.com adds a second level recommendation and also lists almost all companies as 'Buy' companies using their Sell-Buy scale. DGX again came up in the middle.

CSR	Overall	Community	Employees	Environment	Governance
JNJ	65	60	73	67	59
CLUB	58	62	46	58	64
LULU	57	51	61	59	58
HOLX	47	45	50	46	49
CAH	52	51	55	50	53
CVS	54	50	51	61	52
DGX	54	52	56	57	52
All Companies	56	55	57	58	53

CSRHUB provides the ratings above which help to analyze each of our companies in how they perform in their Corporate Social Responsibility Roles. Their numbers are based on the following scale:



With this scale, only JNJ manages to get the Highest CSR Overall score. It is good to see that three others are in the high 50's rating and could move their way up with the correct changes. Of the other categories, we can compare the Governance scores with each other and with all of the companies measured. In Governance we highlight HOLX as the worst performing, with CVS, DGX and even CAH as having just about average Governance scores.

We further analyzed Corporate Governance by using another source, the Institutional Shareholder Service's Quickscore system applied to the companies.

Corp. Governance	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Quickscore	**3**	**N/A**	**5**	**6**	**1**	**3**	**5**
Board Structure	2	N/A	5	1	2	1	3
Compensation	1	N/A	3	9	1	6	6
Shareholder Rights	4	N/A	8	4	3	2	6
Audit & Risk Oversight	10	N/A	1	1	1	2	2

(Low Governance Risk) 1 - 10 (High Governance Risk)

The ISS scores provided by ISS Governance provide an interesting score on the Corporate Governance Risk of each of our analyzed companies:

JNJ: The only highlighted issue for JNJ was that its Audit and Accounting Controversies are accounting for a High Negative Impact on its Corporate Governance score.

CLUB: Not listed on ISS

LULU: ISS identified some worrying factors that led to a higher corporate governance risk. LULU was found to have a high positive impact in reducing their governance risk from their Board Composition and Use of Equity. However, their Takeover Defenses and Meeting and Voting on Related Issues were both highlighted as providing a High Negative Impact on their Corporate Governance score.

HOLX: As our worst rated company, HOLX still manages to get high marks in its Board Composition. Pay for Performance and Meeting and Voting on Issues are both seen as having Highly Negative Impacts on Corporate Governance and raises the risk score.

CAH: Our best performer in the Corporate Governance ratings. CAH receives no negative marks and ISS highlights its Equity Risk Mitigation as a factor that has a High Positive Impact on its Corporate Governance score.

CVS: While CVS manages a low risk score, it still has some negative components of its structure that have been highlighted. Pay for Performance and Audit and Accounting Controversies both contributed as Highly Negative Impacts to its score with Board Performance being the only Highly Positive impact factor.

DGX: Like LULU and HOLX, DGX manages to make some good factors but also some highly negative factors that drag the risk scores up. Pay for Performance and Audit and Accounting Controversies come up again as having a Highly Negative impact to its scores.

While both ISS and CSRHub have shown that our worst performing company in Corporate Governance is HOLX, we do see an issue in the ratings given to CAH by these services. ISS shows that CAH is not only our best company as measured by the Corporate Governance risk score, it is one of the best in all of the companies they have indexed. This goes against CSRHub's average rating for CAH.

As previously stated, these results isolate HOLX as the worst performing company from our list when rating them solely on their Corporate Governance. Further research into the company showed that they've recently been the target of activist investors that have, in the last year, been able to change up the executive leadership of the firm[2]. With these changes having just taken place, we hope to see an improvement imminent for HOLX in the next year or two.

II. Stockholder Composition

Stock Ownership	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Insiders	0.02%	9.30%	0.22%	0.46%	0.20%	0.16%	0.28%
Industry Avg.	12.55%	25.50%	22.18%	14.31%	17.88%	14.87%	17.88%
Institutional	67.71%	26.48%	82.42%	81.10%	89.35%	86.52%	106.28%
Industry Avg.	38.15%	49.71%	48.04%	42.33%	50.02%	63.90%	50.02%
Top Holders	The Vanguard Group (6%)	Farallon Capital Mgmt. (17%)	Fidelity Investments (14%)	Capital Group Companies (24%)	Wellington Management Co. (10%)	The Vanguard Group	Blackrock Inc. (10%)

[2] http://www.wsj.com/articles/SB10001424052702303560204579247922653823370

Public	32.20%	21.66%	17.36%	18.44%	10.27%	13.23%	0%
Hedge Funds	0%	42.54%	<5%	0%	0%	0%	0%

As we see in the table above, all of the companies varied greatly in the stock ownership of Insiders and Institutions versus the industry averages of those groups. The companies showed much lower insider ownership than the average and overall a greater institutional ownership against the average.

Institutional Ownership	**JNJ**	**CLUB**	**LULU**	**HOLX**	**CAH**	**CVS**	**DGX**
Investment Managers	87.45%	0%	61.19%	60.12%	79.72%	88.16%	87.68%
VC / PE	0.05%	0%	0%	0.06%	0.28%	0.15%	0.03%
Hedge Funds	0.95%	42.54%	5.89%	4.19%	2.84%	1.01%	6.04%
Charitable Foundations	0.78%	0%	0%	0%	0%	0%	0.04
Banks	4.30%	0%	2.32%	1.12%	2.70%	4.33%	2.51%
Government Pension	3.80%	0%	1.19%	2.31%	2.59%	3.48%	2.51%
Trusts	0%	0%	0.63%	12.87%	0.45%	1.33%	0.26%

In breaking down the institutional ownership, we see that the largest owners are traditional investment managers and hedge funds. These also correlated with the marginal investors for each company which shows that since these highly diversified institutions signify that we can count only the risk that cannot be diversified away in the discount rate for these companies.

III. Risk and Return

In order to assess the risk profile of our companies, we ran regressions comparing each of our company's stocks against the market for the period from March 2010 to March 2015. These regressions computed the beta, intercept, correlation and standard error of beta for each our respective companies. The regression betas for our companies ranged from 0.57 to 2.23, indicating their varying degrees of volatility or systematic risk in comparison to the market as a whole. CAH proved to be less volatile than the market with a beta of 0.57. According to its beta, CLUB is 123% more volatile than the market, which represents a greater level of risk but also a greater possibility of returns.

We also utilized the regression data to calculate the annualized Jensen's alpha for each company in order to determine whether these companies are earning the proper return for their respective level of risk. The annualized Jensen's alpha of CLUB and CAH were the highest at 13.07% and 13.03%, respectively. The Jensen's Alpha is calculated with inputs that cover historical performance. CLUB has had positive earnings in the past 4 years and showed a loss in 2014. In the case of CAH, there are certain external and internal factors that we believe have contributed to their excess returns e.g., consolidation in the health industry, introduction of new service offerings, and optimization of their supply chain operations to reduce costs. To analyze whether the excess returns of these companies were attributable to firm-specific actions, we analyzed the R^2 of the companies. LULU and CAH had the lowest R^2 indicating that a larger portion of their success could be attributed to management decisions and therefore face less market risk.

Risk Profile	**JNJ**	**CLUB**	**LULU**	**HOLX**	**CAH**	**CVS**	**DGX**
Risk Free Rate	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%
Risk Free Rate (Monthly)	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%

Jensen's Alpha (Monthly)	0.39%	1.03%	0.14%	-0.49%	1.03%	0.52%	-0.55%
Annual Excess Return	4.81%	13.07%	1.65%	-5.69%	13.03%	6.46%	-6.34%
Regression Beta	0.63	2.23	1.65	1.42	0.57	1.23	0.75
Intercept	0.45%	0.83%	0.03%	-0.55%	1.09%	0.487%	-0.50%
R^2	32.3%	36.00%	16.10%	44.50%	18.90%	51.40%	22.00%
Standard Error of Beta	0.13	0.44	0.55	0.23	0.17	0.18	0.21

Bottom-Up Betas

We calculated bottom-up betas for all companies to better reflect the current and future mix of businesses that the firms will be in. Bottom-up betas also have a lower standard error, as such they are better estimates of each firm's risk relative to the market. To estimate the bottom-up betas, we examined the different divisions in which our companies operate and used the average industry unlevered betas for those respected divisions. We then applied division weights calculated by multiplying revenue proportions by industry EV/Sales multiples. Below are the calculations for all firms under review:

JNJ	**Division Weight**	**Unlevered Beta**
Household Products	13.39%	0.91
Healthcare Products	41.51%	0.90
Drugs (Pharmaceutical)	45.10%	0.95
Total		**0.92**

CLUB	**Division Weight**	**Unlevered Beta**
Recreation	100%	0.99
Total	**100%**	**0.99**

LULU	**Division Weight**	**Unlevered Beta**
Apparel	100%	0.86
Total	**100%**	**0.86**

HOLX	**Division Weight**	**Unlevered Beta**
Healthcare Products	100%	0.90
Total	**100%**	**0.90**

CAH	**Division Weight**	**Unlevered Beta**
Healthcare Support Services	100%	0.91
Total	**100%**	**0.91**

CVS	**Division Weight**	**Unlevered Beta**
Retail - Special Lines	27.9%	0.85
Healthcare Support Services	72.1%	0.91
Total	**100%**	**0.89**

DGX	**Division Weight**	**Unlevered Beta**
Healthcare Support Services	100%	0.91
Total	**100%**	**0.91**

Levered Beta Estimates

In order to lever our bottom-up betas, we calculated the debt to equity ratios of each company using the market value of debt and equity. The debt to equity ratios as well as the resulting levered betas are found below:

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Company Unlevered Beta	0.92	0.99	0.86	0.90	0.91	0.88	0.76
Marginal Tax Rate	40%	40%	40%	40%	40%	40%	40%
D/E Ratios	7.24%	432%	3.88%	41.23%	71.52%	11.08%	39%
Levered Beta Estimate	**0.96**	**3.56**	**0.88**	**1.12**	**0.98**	**0.94**	**1.14**

Cost of Equity

To calculate the cost of equity for each firm, we used a risk-free rate of 1.95%, based on the 10-year US Treasury bond rate. We also calculated, when applicable, a weighted equity risk premium (ERP) based on the proportion of revenues generated in different countries. The cost of equity for each firm provided in the table below:

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Cost of Equity	8.56%	22.42%	7.01%	8.87%	7.18%	8.00%	9.43%

Cost of Debt

To calculate the cost of debt for each company we applied a default spread to the risk free rate in accordance with their bond rating. In some cases, a synthetic rating was calculated using the company's interest coverage ratio.

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Bond Rating (*synthetic)	AAA	B	AAA*	B+*	AAA*	AAA*	AA*
Default Spread	0.40%	5.00%	0.40%	4.00%	0.40%	0.40%	0.70%
Risk Free Rate	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%
Pre-tax Cost of Debt	2.35%	6.95%	2.35%	5.95%	2.35%	2.35%	2.65%
After-tax Cost of Debt	**1.41%**	**5.97%**	**1.41%**	**3.57%**	**1.41%**	**1.41%**	**1.77%**

Weighted Average Cost of Capital

With the various inputs already discussed, we estimated each company's cost of capital. The below summarized all the variables used as well as the resulting cost of capital for each firm.

(in millions)	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
After-tax Cost of Debt	1.41%	5.97%	1.41%	3.57%	1.41%	1.41%	1.77%
Cost of Equity	8.56%	22.42%	7.01%	8.87%	7.18%	8.00%	8.51%
Share Price	100.6	$6.81	$66.70	$33.30	$90.52	$102.20	$67.06
Shares Outstanding	2,780	24	142	280	330	1140	144
Market Value Equity	$279,718	$166	$9,471	$9,324	$29,872	$116,895	$9,657
Market Value Debt	$20,251	$718	$368	$3,844	$21,363	$12,955	$3,790
E/D+E	93.25%	18.78%	96.26%	70.81%	58.30%	77.37%	68.50%
D/D+E	6.75%	81.22%	3.74%	29.19%	41.70%	22.63%	31.50%
Cost of Capital	**8.08%**	**9.06%**	**6.80%**	**7.32%**	**4.78%**	**6.51%**	**6.46%**

IV. Investment Return Analysis

	Divisions	Project Type Characteristics	Future Projects
JNJ	Consumer, Drugs, Medical Device	JNJ is a mature company that takes on projects around developing consumer products and longer-term projects around its pharmaceutical and medical device businesses. These projects require significant cash outflows over the R&D period, followed by higher profits and prices during the protection period granted by regulatory agencies.	J&J has stated its plans to continue to grow its R&D pipeline. Over the upcoming years the pharmaceutical and medical device divisions are positioned to create a consistent flow of new product filings. The consumer division plans to launch 20 key new products worldwide in the upcoming year.
CLUB	Recreation	CLUB's primary products are gyms and fitness studios. These projects require upfront investments in building facilities with leases of 15-20 years (that often operate at a loss for the first few years). Clubs need to be around for many years to build their membership rates and increase company margins and revenue growth.	CLUB is developing clusters in urban markets and then branching out from these urban centers to suburbs and neighboring communities. The strategy of clustering clubs will provide significant benefits to members and allow the company to achieve strategic operating advantages.
LULU	Apparel	LULU operates in an industry that is very trend focused and must quickly adapt to the ever-changing needs of customers.	The company has stated plans to continue expanding their recently launched men's category and ivivva athletica brand.
HOLX	Medical Products	HOLX products are primarily premium medical products, including diagnostics, medical imaging, and surgical products. The firm invests long-term on new product development and receives steady cash flows from their diagnostics division.	We expect HOLX to expand their product offerings within their diagnostics segment. They will continue to aggressively promote and broaden their portfolio to include 'Women's Healthcare' products.
CAH	Healthcare Support Services	As a healthcare distributor, CAH's projects span many segments of the healthcare value chain. Medium term projects concern improvements and novel approaches in supply chain management as well as the development of new medical, surgical, and laboratory products.	Future CAH projects will strive to create more integrated supply chain management solutions. CAH will be "going live" on a joint venture with CVS Caremark to expand its presence in generic prescriptions.
CVS	Retail-Special Lines Healthcare Support Services	Projects are generally new stores that have high initial start-up costs followed by consistent cash flows for years to decades. CVS routinely opens new stores and is developing partnerships with providers to offer a more seamless integrated prescription drug experience for patients.	Future CVS projects in their retail division are focused on creating a more integrated consumer health management company through integrated medical clinics, specialty pharmacy and chronic disease management assistance. CVS is likely to continue expanding retail stores worldwide.
DGX	Diagnostic Testing Services	DGX invests in long term projects primarily around new laboratory tests and testing services, some of which are designed for clinical trials. Each of these projects is subject to FDA/regulatory approval.	DGX's future projects are aimed at expanding its offerings of laboratory testing services. Future projects are within the scope of previous projects, as they seek to expand their portfolio of laboratory testing services.

Measuring Past Returns

To assess each company's current project portfolio, we examined its ROE and then calculated each firm's cost of equity, equity return, and equity EVA. Based on our analysis, JNJ and LULU had the highest equity returns. DGX, CAH, CVS had low single-digit returns on equity, while HOLX had a negative return on equity. HOLX's very negative ROE can be explained by the high amount of goodwill ($2,809.9 million) in 2014 that significantly reduced their book value of equity. HOLX's ROE may also be lower than its COE here because its net income declined by 60% due to significant restructuring charges. CLUB's calculated ROE is not significant due to its negative shareholder equity and highly negative net income. JNJ's competitive advantages in pharmaceuticals coupled with the fact that it operates in industries with high barriers to entry has led to very high equity returns. DGX, CAH, CVS equity returns indicate that they are investing in successful projects that are yielding results.

Evaluation of Past Returns

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Return on Equity	31.85%	N/A*	21.93%	-7.32%	19.51%	12.24%	11.93%
Adjusted Return on Equity	19.45%	N/A	21.45%	-165.79%**	10.10%	7.20%	4.96%
Cost of Equity	8.56%	22.42%	7.01%	8.87%	7.18%	8.00%	6.34%
Equity Return Spread	10.89%	N/A	14.44%	-16.19%**	2.92%	4.24%	5.59%
Equity EVA	$7,595.99	N/A	$164.91	-$340.38	$1,496.06	$1,609.42	$240.40

* CLUB's calculated ROE is not significant due to its negative shareholder equity

** HOLX's very negative ROE can be explained by the high amount of goodwill ($2,809.9 million)

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Return on Invested Capital	43.62%	2.03%	21.17%	8.13%	14.36%	11.39%	8.89%
Adjusted ROIC	23.05%	6.78%	12.91%	8.78%	13.67%	5.85%	10.49%
Cost of Capital	8.08%	9.06%	6.80%	7.32%	4.78%	6.51%	4.79%
Capital Return Spread	14.97%	-2.28%	6.11%	1.46%	8.89%	4.88%	4.10%
Firm EVA	$13,528.76	-$6.13	$156.24	$49.39	$4554.79	$2484.80	$576.00

An EVA analysis of the companies below shows similar results to the ROE/ROIC analysis:

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Equity EVA	$7,595.99	N/A	$164.91	-$340.38	$1,496.06	$1,609.42	$240.40
Equity EVA (Industry)	$22,657.97	$1,892.19	$2,647.62	$4,241.89	$6,922.76	$6,922.76	$6,922.76
Firm EVA	$13,528.76	-$6.13	$156.24	$49.39	$4,554.79	$2,484.80	$576.00
EVA (Industry)	$38,336.78	$2,026.47	$4,397.86	$13,263.79	$31,300.26	$31,300.26	$31,300.26

Both measures indicate JNJ is adding significant surplus value each year. LULU, CVS, CAH, and DGX also created some additional surplus value although at not nearly as high a rate as JNJ. JNJ, which is currently investing heavily in R&D and has sustained growth in its pharmaceutical business, will likely reap the benefits of its expanded R&D pipeline over time. We may be seeing a small positive firm EVA with a negative Jensen's alpha for HOLX because the company may have failed to meet market expectations, and consequently their stock price fell. However, HOLX's firm EVA has fluctuated greatly over the past 3 years, so the most recent firm EVA may not be a reliable measure. In the case of CLUB, the company has been eroding value and has both a negative equity EVA and firm EVA. CLUB is struggling to develop its competitive advantage and competes in an industry with low barriers to entry and where CLUB is flanked by low-end and high-end competitors, which could help explain why it has negative EVA measurements.

V. Optimal Capital Structure

Current Financing Mix

Company	Debt	Amount	Percentage	Interest Rates On Books	Years to Maturity
JNJ	Total Commercial Paper	$3100	16.52%		
	Total Senior Bonds and Notes	$14,971	79.8%	0.7-7.0%	1-30 years
	General/Other Borrowings	$158	0.84%		<1 year
	Total Capital Leases	$531	2.83%		
	Total:	***$18,760***	***97.16%***		
CLUB	Total Senior Bonds and Notes	$392	101.9%		
	Total Capital Leases	$83.4	21.70%		
	Total:	***$475***	***144.00%***		
LULU	No Debt				
	Total:	***$0***	***0%***		
HOLX	Total Senior Bonds and Notes	$2,345	46.1%	2.2-3.3%	4 years
	General/Other Borrowing	$2032	53.1%	2.0%-6.3%	5-27 years
	Total Capital Leases	34.1	0.8%		~4 years
	Total:	***$4,411***	***100.00%***		
Cardinal	Total Commercial Paper	$4	0.10%		<1 year
	Total Senior Bonds and Notes	$2,321	59.7%	1.7-4.6%	2-29 years
	General/Other Borrowings	$1,533	39.44%		
	Total Capital Leases	$29	0.75%		
	Total:	***$3,887***	***100.00%***		
CVS	Total Commercial Paper	$685	5.3%	0.51%	<1 year
	Total Senior Bonds and Notes	$11,875	91.7%	1.1-6.6%	0-28 years
	General/Other Borrowings	$4	0.00%		
	Total Capital Leases	$391	3.0%		
	Total:	***$12,955***	***95.21%***		
DGX	Total Senior Bonds and Notes	$3734	98.52%	4.41%	1 to > 6 years
	General/Other Borrowings	$6	0.2%		1 to > 6 years
	Total Capital Leases	$33	0.9%		> 6 years
	Total:	***$3773***	***99.62%***		

As the table above demonstrates, our companies include an array of debt structures and balances. To better understand our companies' debt choices, we grouped them into three categories – Mature Market, Growth Market, and Distressed Market – based on their respective lifecycles.

Market Categorization	Company	Characteristics
Mature	JNJ, HOLX, CVS, DGX	DGX and CVS favor senior bonds for a majority of their debt financing. JNJ, HOLX, and CAH prefer a mixture of senior bonds, commercial paper, and general borrowings.
Growth	LULU, CAH	LULU is the only all-equity company in the pack. Its lack of debt financing reflects its early growth stage.
Distressed	CLUB	CLUB has more debt to equity, a significant portion of which is capital leases.

Tradeoff on Debt v. Equity

Tax Benefit	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Marginal Tax Rate	40%	40%	40%	40%	40%	40%	40%
Effective Tax Rate	20.60%	-321.00% (N/A)	37.60%	44.66%	39.51%	39.50%	38.53%
Added Discipline of Debt	The companies vary in the benefit they would derive from debt as an instrument of discipline. JNJ, CVS, DGX, and HOLX are large, publicly traded firms with few insider holdings. HOLX, which has activist investors including Carl Icahn, might particularly benefit given its negative Jensen's alpha. LULU, with no debt, has the most room for benefit while CLUB, with its negative net income, has less capacity to take on new debt.						
Bankruptcy Risk and Costs	The risk of bankruptcy is low to medium for these mature, established companies. Current ratios run from 1.1 for DGX to 5.9 for LULU, with the exception of 0.6 for CAH, which has negotiated fast payment of cash from customers and long terms from suppliers, resulting in low bankruptcy risk in spite of its low quick ratio. Indirect bankruptcy costs range from low for gyms (CLUB) and sports apparel (LULU) to high for pharmaceuticals and durable medical products (JNJ and HOLX).						
Agency Costs	LULU, with its cash reserves, physical inventory, as well as CLUB, with its real estate holdings, both have lower agency costs than firms like DGX and JNJ, which count intangibles like goodwill and pharmaceutical IP among their most significant assets. Firms with high agency costs can consider issuing convertible bonds.						
Future Flexibility	JNJ and HOLX invest a significant amount in R&D relative to sales. Their future cash flows depend on flexible financing, as returns from high tech projects and pharmaceuticals can be unpredictable. The same goes for DGX and CAH, however these are all mature companies with fairly predictable financing needs.						

VI. Mechanics of Moving to the Optimal

Current Cost of Capital and Financing Mix

Earlier in this report, we calculated the market value of equity using our firms' bottom-up betas and cost of debt. Weighing each market value of equity calculation by the capital ratio, we estimated a current cost of capital for each firm. Despite the size differences across our firms, their estimated costs of capital were consistently in the 6-9% range, with the exception of CAH, whose cost of capital was less than 5%.

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Current Cost of Capital	8.08%	9.06%	6.80%	7.32%	4.78%	6.51%	7.19%

Optimal Cost of Capital at Various Debt Ratios

Debt Ratio	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
0.00%	8.29%	7.64%	6.89%	7.49%	5.61%	6.11%	7.15%
10.00%	8.00%	7.36%	7.22%	7.22%	5.41%	5.89%	6.89%
20.00%	7.67%	7.12%	7.64%	6.94%	5.31%	5.67%	6.62%
30.00%	7.37%	6.91%	8.17%	6.72%	8.00%	5.50%	6.36%
40.00%	7.13%	7.86%	9.00%	6.53%	9.00%	5.37%	6.22%
50.00%	6.93%	8.51%	10.76%	10.80%	11.21%	5.25%	6.02%
60.00%	6.73%	8.69%	12.97%	11.80%	12.41%	5.08%	7.69%
70.00%	6.47%	11.07%	16.64%	12.80%	13.61%	7.49%	8.09%
80.00%	9.00%	12.07%	23.99%	13.80%	14.81%	8.19%	8.39%
90.00%	9.32%	15.03%	46.02%	14.80%	16.01%	9.90%	10.15%

Current vs. Optimal Debt

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Current	6.75%	81.22%	3.74%	29.20%	41.56%	28.28%	30.32%
Optimal	70.00%	30.00%	20.00%	40.00%	20.00%	60.00%	50.00%

As evidenced in the table above, there is considerable variety among firms with regards to their optimal debt ratios. That being said, when it comes to their current capital structures, there are some similarities. With the exception of JNJ, CLUB, and LULU, most of the firms have moderate amounts of debt (30-40%), as would be expected in healthcare's historically mature growth environment.

Healthcare reform in the United States, which is resulting in massive restructuring of the industry as a whole, is causing considerable shifts in the life cycle of some healthcare-related firms whose businesses are directly affected by these changes. For example, firms like CAH that can provide supply chain management solutions for hospitals under the strain of cost-cutting reforms are reverting back to a period of high growth as a result of this restructuring. Additionally, firms such as LULU that tap into the general public's increased interest in health and wellness are also benefitting from these changes. Industry characteristics might influence whether these firms move to, or at least closer to, their optimal debt structure as indicated by the model.

As before, a review of these companies in relation to their respective lifecycles reveals that they are similarly positioned to take on additional debt (with the exception of CAH and CLUB).

Market Categorization	Company	Characteristics
Mature	JNJ, HOLX, CVS, DGX	JNJ and CVS have relatively high debt capacity (in the 30-60% range). Compared to their current debt holdings, a move to the optimal would represent a drastic shift in their financing policies. In reality, it is highly unlikely that any of these firms will actually move to the optimal. That being said, we anticipate that they will inevitably have to take on additional debt exposure over time since their increasing size reduces their ability to take on projects with sizeable returns. As proof of the possibility that JNJ and CVS might actually readjust their debt and equity distributions, given their recent announcements concerning buybacks. On July 21, 2014, JNJ announced plans to repurchase up to $5 billion of their common stock. As part of a multi-year buyback starting in 2013, CVS is in the process of repurchasing $6 billion of their common stock and announced $10 billion buyback starting in Dec 2014. HOLX and DGX have moderate debt capacity (in the 10-20% range). Compared to their current debt holdings, a move to the optimal seems less disruptive to their financing policies, especially when compared to that of JNJ and CVS.
Developing/ Growth	LULU, CAH	LULU has some untapped debt potential while CAH is slightly over-levered. LULU has an excess capacity of approximately 17%; CAH has exceeded its optimum by 21%. It is possible that both firms will move much closer to their optimum debt level, as both benefit from the currently changing market definitions and have exhibited steady cash flows.
Distressed	CLUB	CLUB is currently over-levered, especially in light of its negative net incomes and its inability to pay debt obligations. Currently, their book value of debt includes capital and operating leases.

Since the enactment of the Patient Protection and Affordable Care Act (PPACA) 5 years ago, the healthcare industry has yielded short-term high returns for these firms (with the exception of CLUB) despite the uncertainties regarding long-term restructuring within the industry. These high returns translate into large, accumulated cash balances that can serve as both buffers in times of market volatility and as sources of capital for advancements in R&D, technology, and/or operational efficiency. The flexibility conferred by these accumulated cash balances might explain these healthcare firms' disinclination to tie up their capital in debt.

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Annual Cost Before	21,563.90	71,580.52	623.87	924.15	2,311.61	10,487.52	1,024.74
Annual Cost After	17,267.14	54,593.98	591.75	824.41	2,567.92	8,084.46	952.58
Change in Annual Cost	-4,296.77	-16,986.55	-32.11	-99.74	256.31	-2,403.06	72.16
Increase in Firm Value	94,976.00	214.74	712.39	3,506.00	-9,764.00	16,127.00	1,558.76
% Increase in Firm Value	36%	27%	7.76%	27.78%	-20.19%	10.13%	10.80%
Change in Stock Price	34.16	8.82	5.02	$12.52	-29.59	14.15	10.79

Firm Value at Optimal Debt Ratio

Moving to the optimal debt ratio can greatly affect firm value. Differences in firm size within this group suggest that it would be most helpful to quantify this impact in percentage terms. On a relative level, the percent change in enterprise value is most remarkable at firms with larger debt capacities, such as JNJ, and in those that are currently over-levered, such as CLUB and CAH. At the other extreme, a firm like LULU, which among our group of firms is already operating somewhat close to its optimal debt ratio, exhibits less remarkable percent change in enterprise value.

We recognize that it is unusual for HOLX to see such a sizeable increase in firm value as it moves to the optimal debt ratio, given its relatively low debt capacity (its interest coverage ratio is 1.87). That being said, we believe that HOLX's increase in firm value is likely the effect of increased debt decreasing the cost of capital.

Constraints

<u>Operational Constraints</u>

Next, we examined historical year-to-year drops in operating income to determine operational constraints:

Company	Commentary	Highest Drop (year)
JNJ	We felt that after the 2010 Tylenol recall (in addition to a children's product recall and hip replacement recall that same year), JNJ was essentially a different company and that its most recent returns were more reflective of income trends.	-0.43% (2011)
CLUB	We examined historical data back to 2013, when US health club membership reached an all-time high and CLUB launched BFX Studio brand to penetrate the fitness studio market.	-39.70% (2014)
LULU	We used a look-back period to LULU's founding in 1998. Since its inception, there has only been one year in which LULU's year-to-year operating income has dropped.	-5.56% (2014)

HOLX	We examined historical data as far back as 2005 when HOLX was looking into acquiring Cytyc and other companies related to women's health and densitometry imagining – which are at the core of its current operations in women's health imaging.	-23.00% (2009)
CAH	We examined historical data as far back as 2000, a few years after CAH first ventured into serving health care manufacturers and launched an online catalog of their products – both of which are the mainstay of its current operations.	-50.61% (2013)
CVS	We examined historical data as far back as 1998 when CVS Caremark defined pharmaceutical services as its core operating unit.	-10.00% (2000)
DGX	We used a look-back period to 1995, shortly before DGX became an independent company as a spin-off from Corning.	-61% (1995)

Both the historical low and (as a further stress test) a 30% drop in operating income were used to assess each firm's debt capacity:

Company	Constrained Optimal Ratio	Results
JNJ	60%	Even given a 0.43% drop in operating income, JNJ's optimal ratio has considerable debt capacity. As an additional stress test, the optimal ratio drops to 50% given a 30% drop in operating income.
CLUB	30%	At both a 30% drop and a historical drop of almost 40% in operating income, CLUB's debt capacity remains at 30%.
LULU	20%	At both a historical drop of almost 7% and a 30% drop in operating income, LULU's debt capacity remains at 20%.
HOLX	40%	At both a historical drop of 23% and a 30% drop in operating income, HOLX's debt capacity remains unchanged at 40%.
CAH	10%	At a historical drop of 50%, CAH's debt capacity drops to 0%, while at a 30% drop in operating income its debt capacity drops to 10%.
CVS	60%	Even given a 10% drop in operating income, CVS has considerable debt capacity. As an additional stress test, the optimal ratio also drops to 60% given a 30% drop in operating income.
DGX	90%	Even given a 30% drop in operating income, DGX has considerable debt capacity. As an additional stress test, the optimal ratio also drops to 70% with a historical drop of 61% in operating income.

Rating Constraints

Given the ongoing changes taking place in this industry as a result of healthcare reform, many of our firms will likely tie a large portion of their value to expected growth and earnings; as such, we applied an investment-grade ratings constraint to ease concerns of downside risk. The ratings-constrained optimal debt ratios across firms remained at pre-constrained levels.

BBB Constrained

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Rating	AAA	B	AAA	B+	AAA	AAA	AA
Debt Ratio	0.7	0.3	0.2	0.4	0.2	0.6	0.5

Market and Industry Analysis

Within our industry, most firms touch upon a core part of the healthcare value chain (e.g. drugs-pharmaceuticals and healthcare support services) or are part of tangentially-related industries (e.g. recreation, retail, and apparel related to wellness). For drugs-pharmaceutical and healthcare support services, the average debt-to-capital ratios are 11.43% and 21.05%, respectively. For recreation, apparel, and retail space, the average debt-to-capital ratios are 24.05%, 17.17%, 29.30%. With the exception of CAH and CLUB, all firms covered in this analysis were under-levered relative to their respective industries. Of our companies, only JNJ, CVS, HOLX, and DGX have the capacity to increase debt. Given LULU and CAH's relatively short market cycles (due to pressures for higher turnover in both the retail industry and healthcare logistics), it might actually make sense for them to be under-levered relative to the market average. As a result of being over-levered, CLUB has achieved a distressed state. Furthermore, a recent analysis of CLUB indicates that bankruptcy is a real concern.

VII. Mechanics of Moving to the Optimal

Path to the Optimal

The table below describes how our firms should move towards their optimal ratios.

Company	Actual/Optimal	Threat of takeover/bankruptcy	How should the firm move toward the optimal?
JNJ	JNJ's current debt ratio is 6.75%; its optimal is 70.00%	Very low risk; large market cap and positive Jensen's alpha	JNJ has too little debt compared to its sector (drugs-pharmaceutical). It should take on debt financed projects that meet its ROIC requirements; it is not a takeover target and can increase its debt ratio gradually
CLUB	CLUB's current debt ratio is 81.22%; its optimal is 30.00%	Moderate risk; low market cap (~120 MM) and negative 2014 net income (partially offset by deferred taxes)	Relative to its recreation sector, CLUB is very over-levered. CLUB should pause its expansion and focus on improving revenue and profitability of existing clubs to pay down its debt; 2014 was the firm's first year to post a negative net income, but CLUB should immediately stop debt growth and closely monitor quarterly earnings to determine if more decisive actions must be taken to decrease debt ratio
LULU	LULU's current debt ratio is 0%; its optimal is 20.00%	Low risk: sizeable market cap (mid-size) and positive Jensen's alpha. Large cash reserves offset under-leveraged position	LULU has too little debt when compared to the average for the apparel industry. LULU should take on debt-financed projects with a good ROIC consistent with existing performance; LULU has established credit lines that can be used for this purpose. LULU should increase its debt ratio gradually
HOLX	HOLX's current debt ratio is 29.20%; its optimal is 40.00%	Low risk: sizeable market cap (mid-size); HOLX does have a negative Jensen's alpha, but capital EVA is positive and firm has instituted a poison pill	HOLX should likely buy back stock; ROE is less than COE[1], suggesting a lack of good projects to finance with debt. HOLX has no dividends and should preferentially pursue buybacks to avoid setting this precedent. HOLX should increase its debt ratio gradually
CAH	CAH's current debt ratio is 41.56%; its optimal is 20.00%	Low risk: sizeable market cap (mid-size) and positive Jensen's alpha	Relative to the healthcare support sector with a debt ratio of 21.05%, CAH has too much debt. CAH should finance new projects with equity and avoid taking on new debt; ROC > COC, and ROE > COE, suggesting a strong pipeline of projects which could be equity financed. CAH should reduce its debt ratio gradually

CVS	CVS's current debt ratio is 28.28%; its optimal is 60.00%	Very low risk: CVS has a large market cap and a positive Jensen's alpha	CVS has a debt level similar to peers in the retail space but a debt ratio that is slightly higher than the average for healthcare support services (21.05%). CVS should seek to finance new projects with equity; ROC > COC and ROE > COE, suggesting a pipeline of good projects which could be equity financed. CVS should increase its debt ratio gradually
DGX	DGX's current debt ratio is 30.32%; its optimal is 50.00%	Low risk: DGX has a negative Jensen's alpha but a large market cap	DGX has higher debt than the average for healthcare support services (21.05%). DGX should preferentially seek projects with good returns that can be debt financed but may consider increasing dividend payout. DGX should increase its debt ratio gradually

1 Note: 2014 ROC is greater than COC, but this has fluctuated over the past three years

Of these firms, CLUB is at the greatest risk of takeover. It lacks takeover defenses and may offer some gains to firms looking for methods of debt restructuring. Because of its poor performance, it is unlikely that CLUB could command a premium in such a situation.

Designing the Perfect Debt (Table)

<u>Qualitative Analysis</u>

The following table provides our description of project characteristics based on where a firm gets its revenue streams

Industry category	Project characteristics	Debt characteristics	Company
Drugs - pharmaceuticals	Long term Typically stable High regulatory dependence US + foreign (primarily Euro) inflows/outflows	Long term USD + some foreign (primarily EUR) Straight debt Floating rates	JNJ
Recreation	Medium term Stable – contract based USD inflows/outflows	Medium term USD Fixed rates	CLUB
Apparel	Short term Volatile – consumer taste USD inflows/outflows	Short term USD Floating rates	LULU
Healthcare products	Medium term Typically stable High regulatory dependence USD + some foreign (mostly EUR) inflows/outflows	Medium term USD + some foreign (primarily EUR) Fixed rates	HOLX JNJ
Healthcare support services	Short term and medium term Competitive USD inflows/outflows	Short term and medium term USD Fixed rate	CAH DGX
Retail	Long term Stable USD inflows/outflows (limited BRL to finance stores in Brazil)	Long term USD (limited BRL) Straight debt Fixed rate	CVS

In addition to the revenue streams, we examined where our firms lie along the arc of their life cycle to get a better understanding of what projects they should pursue:

Market Categorization	Company	Characteristics
Mature	JNJ, HOLX, CVS, DGX	Firms in the category will benefit from stable revenues that allow them to take on short-term debt to reinvest in their products and services. These companies balance portfolios of short-term and long-term projects; therefore, their debt holdings will also exhibit such a mixture of short-term and long-term debt. For those firms in this category that operate on a global scale, we anticipate that protection from local cycles will be achieved by taking on mixed currency debt.
Developing/Growth	LULU CAH	Firms in the developing/growth category need to hedge their bets and take on a mix of short-term and long-term debt. Since there is currently more volatility surrounding the future of healthcare reform and restructuring, we anticipate that any new debt undertaken will be weighed more heavily towards to the short-term. For firms like LULU, that can easily expand their areas of operations, we expect debt to become increasingly mixed currency as firms taken on a global presence. For firms like CAH, whose supply chain management solutions and consulting services are very tailored to the American healthcare system, debt might continue to be more heavily skewed towards USD, but may take on increasingly mixed currency as healthcare systems across the globe reach a consensus on a global standard for healthcare delivery.
Distressed	CLUB	We strongly discourage CLUB from taking on any further debt, but should they need to, it would need to be very short-term and only with the intent of providing some increased flexibility

Quantitative Analysis

We attempted to use macroregression data to qualify our firms' debt features and made the following observations.

Our macroeconomic regression analysis proved to be consistent with our qualitative analysis for most of the firms. We examined coefficients for the relationship between firm value and operating income vs. bond interest rates, GDP, and inflation. The regression coefficients suggest that JNJ, for example, has an average duration of about 8 years, is well-diversified and fairly resistant to market ups and downs with a small degree of counter-cyclicality, and has some pricing power relative to the industry, suggesting the possibility of taking floating rate debt. CLUB, a distressed company, has short duration debt, is highly cyclical, consistent with being tied to consumers' disposable incomes, and lacks pricing power relative to the industry. The numbers for LULU, based on firm value and operating income, are difficult to interpret, perhaps because LULU is a young growth company with only 8 years of public history. HOLX is short-duration, counter-cyclical (highly-so based on operating income), and has poor pricing power, however the interpretation of the data in the context of the qualitative analysis is inconclusive. CAH has a short duration, which might be consistent with its roughly 60/40 mix of senior bonds and general borrowings, in an industry that has a duration of 5 years. This is consistent with our analysis that Cardinal seems to be taking debt of varying durations to fund projects in Healthcare Support Services and Consumables. CVS has a short duration, is highly cyclical, and lacks pricing power. DGX numbers are inconsistent and not particularly informative.

VIII. Dividend Policy

Dividends	Lifecycle Stage	Current Policy
JNJ	Mature	Consecutive increase in dividends for the past 52 years
CLUB	High growth	Dividends paid in each of the past two years, no dividends prior to 2012
LULU	High growth	Never paid; zero dividends
HOLX	High growth-mature	Never paid; zero dividends
CAH	Mature	Consecutive increase in dividends
CVS	Mature	Pays quarterly dividends, increasing each year from \$0.11/share in 1997 to \$1.10/share in 2014
DGX	Mature	Pays quarterly dividends, increasing, most recently \$0.38/share in April 2015

With the exception of CLUB, all of the companies that pay dividends are unambiguously at an appropriate lifecycle stage to do so with the exception of CLUB. As a high growth company, CLUB may have a limited capacity to pay dividends, but has low internal financing capabilities and therefore requires more external funding. Given this requirements, it may not be prudent for CLUB to pay dividends. All companies in the mature growth stage pay consistently increasing dividends. While they likely have relatively high funding capabilities relative to possible good projects, their policies of paying consistently increasing dividends is concerning because it creates an expectation among shareholders that this policy will continue indefinitely. This limits company flexibility to pay out lower or no dividends in years where they may have higher financing requirements.

<u>Clientele Effect</u>

Shareholder preference for receiving dividends or buybacks primarily depends on which method is most advantageous to that shareholder from a tax perspective. In most cases, investors will have self-selected themselves by investing in companies that use their preferred method of cash flow to shareholder.

JNJ: Primary investors are mutual funds. JNJ has a 57 year history of paying out dividends, their investors have likely self-selected for those who prefer to receive dividends.

CLUB: Investors only began receiving dividends two years ago, so it is unlikely that they have a strong preference for receiving dividends. Moreover, CLUB is a high risk investment that is not ideal for investors interested in stable income. That being said, now that they have started to pay dividends, they may face objections if they attempt to stop.

LULU: As a young high growth company, LULU is unlikely to attract investors who are interested in or expect to receive dividends. It is possible that as LULU matures, shareholders will begin to demand dividends.

HOLX: Investors are not likely to be interested in dividends. HOLX has never paid dividends before, so most of its investors would likely not place a high value on potential tax benefits they could be afforded by receiving dividends.

CAH: Investors have become accustomed to a long history of receiving dividends and likely expect these payments to continue.

CVS: Investors have a long history of receiving steadily increasing dividends and likely expect these payments to continue.

DGX: Investors expect dividends because they have been receiving them for a long period of time and expect them to continue.

The clientele effect is primarily mediated by a company's dividend history. Investors self-select for companies that either pay or don't pay dividends. In our cohort, the marginal investor in all companies except CLUB were large mutual fund managers. CLUB's marginal investor is Farallon capital management, an asset management company that primarily caters to large institutions and high net worth individuals. They claim to operate as a hedge fund, suggesting that their more active investment style may not exhibit a significant preference for dividends, particularly in the current environment where there is no tax advantage to dividends over buybacks.

<u>Signaling Effects</u>

JNJ: Dividend policy appropriately signals that they are a mature growth company with future strong cash flows. The fact that they have paid dividends for 52 years sends a message that this is a solid institution with a stable future. It appropriately indicates that JNJ is not a growth company, but a mature machine that puts out a stable flow of cash.

CLUB: This Company had particularly poor results last year, so it is odd that they continued paying dividends for a second year. This is likely a misguided attempt to signal stability while cash flows are actually becoming less stable. They also see themselves as a growth company. CLUB would likely benefit from ceasing dividend payments to signal that they are actually a growth company to investors and to have the financing for growth projects. Alternatively, starting dividends in a decline may suggest that CLUB is entering the decline corporate lifecycle stage and has more funding than it can spend on good projects.

LULU: This has been a high growth company and has only been publicly traded for 7 years. For this reason, it makes sense that management has not paid out dividends and instead reinvested their cash in projects. The company has invested heavily in increasing their number of stores, entering new markets, and establishing new product categories and brands.

HOLX: The firm is appropriately signaling that it needs to reinvest capital into the company instead of offering dividends or buybacks. This signals a pursuit of growth and new investment opportunities.

CAH: The increasing dividend payment signals strong future cash flows given its investment in good projects.

CVS: Consistently increasing dividend payments signal that the firm expects strong, predictable future cash flows and returns from projects.

DGX: Dividend policy signals a mature firm with stable cash flows, balancing growth projects with steady payouts to investors.

Recommendations on Returning Cash to Stockholder: Dividends vs. Buybacks

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Cash Return Method	Dividends	None	Buybacks	Buybacks	Dividends	Dividends	Dividends

JNJ, CAH, CVS and DGX are all mature growth companies with stable cash flows and investors who expect dividends, so it makes sense for them to continue paying dividends. This is not to say that unconditional consistent increases are appropriate, but the general policy of returning stock to shareholders by way of dividend makes sense for them.

CLUB should not pay dividends or buy back stock. Its shareholders are not accustomed to receiving dividends, it is attempting to position itself as a growth company and does not have stable returns. There is no reason for it to return money to shareholders through either method at present.

LULU is a growth company whose future is still somewhat uncertain, so it does not make sense to set the expectation for dividends going forward. If LULU has excess cash that it would like to pay out to shareholders, then it should do so in a buyback as it did in 2014.

HOLX's investors are primarily large mutual funds that do not expect dividends. Furthermore, HOLX has volatile net income and is not in a position to set expectations for dividends in the long term.

IX. Framework for Analyzing Dividends

Average FCFE and Cash to Stockholders for the past 5 years

(in millions)	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Net Income	$12,802.60	-$7.74	$219.00	-$197.50	$834.00	$3,997.80	$630.58
FCFE (actual debt)	$12,144.40	$19.60	$129.00	-$915.66	$1,010.20	$1,669.20	$1,895.76
Dividends	$6,725.60	$2.40	-	-	$319.00	$873.40	$123.26
Stock Buybacks	$5,780.60	-	$147.40	-	$414.60	$3,361.60	$610.80
Cash to Stockholders	$12,506.20	$2.40	$147.40	-	$733.60	$4,235.00	$734.06
Dividend Payout Ratio	53.68%	4.38%	-	-	47%	21.30%	20%
Cash Paid as % of FCFE	**103%**	**12%**	**114%**	**-**	**73%**	**253.71%**	**39%**

The table below summarizes how much each firm returned to its stockholders, relative to how much they actually did return. This table also summarizes how each company returned cash to its stockholders and how well it performed on the return measures.

Dividend Policy Summary	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
FCFE (actual debt)	$12,144.40	$19.60	$129.00	-$915.66	$1,010.20	$1,669.20	$1,895.76
Cash to Stockholders	$12,506.20	$2.40	$147.40	$0.00	$733.60	$4,235.00	$734.06
Dividends	✓	✓	X	X	✓	✓	✓
Stock Buybacks	✓	X	✓	X	✓	✓	✓
ROE-Required Return	4.75%	-38.30%	13.14%	-25.38%	-0.25%	-5.81%	-4.79%
Actual-Required Return	-1.58%	-33.18%	22.60%	-4.59%	6.01%	13.08%	-10.43%

Several of the health and wellness companies do not pay dividends or buy back stocks. Historically, LULU and HOLX have not paid any dividends to shareholders since they have been public. Of note, HOLX has had an average negative FCFE over our 5 years of analysis. Their FCFE may be negative due to its negative net income and indicates the need to raise equity.

The below table summarizes supporting rationale for each firm's current dividend policy:

Policy Rationale	Optimal Capital Structure	Growth and Maturity of Firm	Effects on Financial Flexibility
JNJ	Because JNJ is under-levered, it makes sense for JNJ to pay out more than their FCFE in the short-term (FCFE < cash flow returned).	JNJ is a mature company with stable cash flows and can afford to provider higher dividends and buybacks.	Flexibility is not a high priority for JNJ as it is a stable growth firm with large cash flows. Increasing dividend payments will increase JNJ's debt ratio and allow for the firm to move to its optimal debt structure.
CLUB	CLUB is significantly over-levered and should therefore not take on additional debt or return additional cash to stockholders. Therefore, it stands to reason that CLUB's FCFE > cash flow returned.	Because of CLUB's small size and volatile earnings, the company should lower its dividends and stock buybacks and instead refocus on reinvesting back into the firm.	CLUB should decrease dividend payments because this will help them decrease their debt ratio and increase their flexibility to effectively compete in an increasingly competitive fitness marketplace.
LULU	Although LULU is a growth company that needs to reinvest back into the firm, their debt ratio is significantly below their optimal structure. Therefore, LULU needs to consider the option of taking a greater number of good projects with debt.	LULU is a growth company with less stable cash flows. Although they have achieved high growth, the retail landscape is risky and highly competitive. LULU has followed a prudent practice of not paying any dividends over the last several years in order not to set a precedent that they may need to discontinue in the future.	LULU has achieved good returns on its projects, indicating that the management has wisely selected its projects. Since the company is still rapidly expanding, it likely highly values flexibility. Hence, the firm should postpone paying any dividends until the company has matured.
HOLX	Currently, HOLX is slightly under-levered. Although increasing cash payments to stockholders would help HOLX move to its optimal debt structure, this would be very risky for the firm as its FCFE's have been consistently negative.	HOLX is primarily a high growth company transitioning into a mature firm. It continues to have volatile cash flows. Therefore, it is prudent for the firm to continue its current zero dividend/buyback policy as it needs to reinvest back into the firm.	Although Hologic is currently under-levered, the firm should continue its zero dividend/zero stock buyback strategy because of its uncertain cash flows. Furthermore, there is increased competition in the marketplace and Hologic needs to reinvest back into the firm. Therefore, the firm needs the financial flexibility in order to continue to grow.
CAH	CAH is currently over-levered, with FCFE > cash flow to stockholders. This policy makes sense as paying out too much in dividends may make the company even more over-levered.	CAH is a mature company with stable cash flows. However, since it is over-levered, the firm needs to decrease cash payments to stockholders and use those retained earnings to pay off some of their debt.	CAH is a mature company in a more stable healthcare sector of medical products. Although healthcare reform changes may increase cash flow volatility, CAH is not expected to highly value flexibility.
CVS	CVS' current debt ratio is well below its optimal. Because it is under-levered, it would make sense for the company to pay higher dividends. However, they should do this only after	Given that CVS is in the mature growth stage, it makes sense for the firm to be paying out dividends. However, steadily increasing dividends without a steady increase in FCFE has	CVS is a stable growth firm that should increase its debt ratio. The company does not need a significant cash buffer for financial flexibility and is able to pay increasing dividends.

	borrowing to fund good projects.	resulted in dividend overpayment.	
DGX	Because DGX is under-levered and has cash surplus, it makes sense for the company to increase dividend payouts.	DGX is a mature company with a flat growth rate. The firm is able to provide both dividends and periodic buybacks of common stock.	Flexibility is not of utmost importance for DGX , as DGX is a dominant provider of medical diagnostic testing services with stable cash flows.

Based on each company's dividend policy, current cash balance, and history of project choices, we provide the following recommendations for our firms' dividend policies:

Dividend Policy Recommendations

JNJ	Because JNJ has a deficit of FCFE and a history of good projects, JNJ should reinvest more into good projects. This reinvestment with debt will also help JNJ reach its optimal debt structure.
CLUB	Although CLUB has surplus FCFE, it is significantly over-levered with volatile cash flows and a history of poor quality projects. Therefore, CLUB should first aim to reduce their debt by reassessing their investment policy and then decreasing their dividends over time.
LULU	LULU has historically not paid any dividends to shareholders over the last 7 years and as a young growth company, they should retain their cash to continue to grow. Furthermore, their FCFE is less than their cash flows to stockholders. At the same time, the company has accrued a significant cash balance and has proven that it can make smart investments. Therefore, we would recommend for LULU to give managers the maximum flexibility in setting the dividend policy.
HOLX	HOLX should urgently re-focus on its investment policy in order to find good projects to invest in. Because of its consistently negative FCFE's and volatile cash flows, HOLX should opt to continue its dividend policy of zero dividends and buybacks.
CAH	CAH has a FCFE surplus and also a strong history of good quality projects. Shareholders should therefore give managers the flexibility to keep cash and set dividends. In order to lower CAH's debt ratio, managers could choose to use retained earnings to pay off some of their debt.
CVS	CVS managers are currently setting a runaway dividend policy. Given that CVS has good projects with ROC > COC, it would make sense to divert more of the money currently being paid out in dividends to projects. This assumes that CVS has projects to invest in with ROCs similar to the company's current ROC. If they do not have good projects, CVS should continue paying dividends and issue more debt in order to optimize the capital structure and increase available FCFE.
DGX	Because FCFE > cash return in the setting of historically flat revenue growth rates and poor projects, DGX stockholders should place increased pressure on managers to return more to stockholders.

<u>Dividend Comparison to Peer Group</u>

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Dividend Payout (Company)	53.68%	4.38%	0%	0%	47%	21.30%	19.71%
Dividend Payout (Sector)	51.36%	49.53%	26.40%	37.39%	18.14%	21.48%	18.14%
Dividend Payout (Regression)	43.80%	-4.73%	36.01%	35.71%	34.12%	32.38%	31.22%
Cash Returned/FCFE (Company)	103%	12%	114%	0%	73%	253.71%	38.72%
Cash Returned/FCFE (Sector)	133%	206.02%	164.69%	174.54%	148.95%	250.87%	148.95%

To estimate dividend payouts based on percent of company held by institutions, expected growth rate in earnings per share for the next five years, market value of debt to capital ratio and bottom-up betas, we used a regression model based on U.S. company dividend payouts" Dividend payout= 0.835 –

0.205(% held by institutions) – 0.678(Expected growth rate in EPS) – 0.039(MV Debt/MV Capital) – 0.222(Beta).

JNJ and CVS make dividend payouts and return portions of their FCFE to stockholders that are typical for their sectors and US companies with similar characteristics.

CLUB, which just started paying dividends, pays out much less than other companies in its sector. This also makes sense considering its current lifecycle phase and financial outlook. Importantly, It historical dividend policies are consistent with companies with similar characteristics, as demonstrated by the regression model. CLUB is likely financially more similar to these companies that it is to others in its sector.

Both LULU and HOLX do not pay out any cash to shareholders in the form of dividends, but LULU has returned about 114% of its FCFE through stock buybacks. The dividend payouts of both companies are a departure from the policies of their peers, but this makes sense given that they are high-growth companies with good projects in which to invest.

CAH pays out dividends that are higher than others in its sector, but returns less cash as a percent of FCFE than others in its sector. This suggests that its dividend policies are not based on comparison to its peer group.

DGX pays out dividends appears to adhere very closely to the dividend policies of others in its sector but should actually pay out more to stockholders based on its financial characteristics and the current percent of FCFE that it is paying out.

<u>Cash Balance Relative to Assets</u>

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Cash	$33,089.00	$93.50	$698.60	$736.10	$2,865.00	$2,481.00	$192.00
Cash/Total Assets	25.24%	22.82%	55.78%	8.75%	11.01%	3.34%	1.94%
FCFE Relative to Cash Return	FCFE < CF shareholders	FCFE > CF shareholders	FCFE < CF shareholders	N/A	FCFE > CF shareholders	FCFE < CF shareholders	FCFE > CF shareholders

One reason that companies might want to temporarily send more cash to shareholders than their free cash flow to equity is if they have excess cash reserves. Of our companies with FCFE less than their cash return to shareholders, LULU appears to have large cash reserves relative to their total assets and it may be appropriate for them to return more cash to stockholders than their FCFE if they are not going to use the cash otherwise.

CVS has a relatively small cash balance relative to its assets yet is still returning more cash to shareholders than its FCFE. The only reason a company with a small cash balance might want to return more cash to its investors than its FCFE is if it is in the declining stage of its lifecycle. This is not the case with CVS, so they should not be returning this much cash to equity owners. They are most likely returning this much case because investors expect them to continue their policy of increasing dividends annually.

X. Valuation

Summary of Valuation Models

	JNJ	CLUB	LULU	HOLX	CAH	CVS	DGX
Pattern	2-stage	2-stage	2-stage	2-stage	2-stage	2-stage	Stable
High growth period	5 years	5 years	5 years	5 years	5 years	5 years	0 years
CF type	FCFF	FCFF	FCFF	FCFF	FCFF	FCFF	FCFF
Operating margin	28.4%	1.8%	21.0%	19%	2.1%	6.72%	15%
Sales/capital ratio	0.84	0.9	2.90	2.1	9.41	7.43	9.41
Stable growth rate	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%
High growth rate	5.49%	10%	18.93%	12.50%	10.58%	10%	1.95%
COC current	8.08%	6.29%	6.80%	7.32%	4.78%	6.51%	5.90%
COC stable	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%
ROC current	18.63%	6.13%	29.68%	5.27%	14.72%	7.95%	16.51%
ROC stable	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%

Valuation Model

We assumed a 2 stage growth model with a high growth phase of 5 years for all companies with the exception of DGX. DGX is currently growing at the risk free rate and we do not anticipate this to change within the next 10 years.

For all of our companies, we used FCFF to predict our cash flows because none of our companies. None of our companies are at their optimal debt ratio so we assume that this ratio will be changing over time.

	What's the story?
JNJ	JNJ has a history of stable performance for hundreds of years and has maintained a consistent growth rate in the 5-6% range for at least the past two decades. They continue to invest in projects similar to the ones that they have taken in the past in the pharmaceutical and healthcare space, suggesting a similar sales to capital ratio. Because we don't anticipate the need for healthcare to change significantly on a per capita basis in the foreseeable future, it is safe to assume that they will that their growth, operating margins will continue at their stable historical rate.
CLUB	We assume CLUB will see a high revenue growth over the next 5 years as it refocuses its business on membership growth and cutting expenses. We consider it undervalued given its potential. We assume that its operating margins will remain at its recent historical levels of approximately 1.8% as it undergoes the process of attracting new members. Because we expect CLUB to encounter competition and challenges as it works to build its membership base, we expect its sales to capital ratio to remain the same.
LULU	We expect LULU to maintain its high historic growth rate of 18.93% as they are still a young, expanding company. Expansion into new product categories such as men's apparel offers them opportunity to continue these growth levels. They have large cash reserves to fund investment in new projects with high ROIC, we can expect management to continue to select excellent projects going forward. LULU will continue to enjoy high operating margins due to the strength of their brand. Although LULU has had an excellent record with its projects, we do not expect the firm to be able to sustain its high sales/capital ratio. Therefore, we chose to slightly lower the reinvestment rate closer to industry values.
HOLX	We expect HOLX to see growth rates similar to the invasive and non-invasive healthcare products sectors, but weight their growth rate more heavily towards non-invasive products because that is currently the majority of their business. We expect their operating margin to drop slightly from its historical rate of 21% to 19% due to increased competition, but believe that it will remain stable at this level for at least the next five years. We chose to raise the reinvestment ratio for HOLX in order to reflect industry averages for healthcare products. IN particular, because Hologic will be focusing more on non-invasive medical supplies, we wanted their new reinvestment rate to accurately reflect their change in portfolio.
CAH	Rapid restructuring of the healthcare industry is increasing demand for CAH's supply chain management solutions among an increasingly broad set of healthcare companies. Through acquisitions, CAH is expanding its touchpoints

	within the healthcare system ranging from hospitals to individual patients. We predict that their ability to take advantage of the changing healthcare space will sustain a growth rate at or slightly higher than the industry average over the next 5 years. Given that the core of their business will remain the same, we believe that they will continue posting operating margins similar to their historical averages. As CAH chooses more capital-intensive healthcare projects, we expect their sales/capital ratio to lower closer to industry averages
CVS	CVS is well positioned to take advantage of changes in the healthcare industry resulting from healthcare reform. They are rapidly expanding their pharmacy benefit services and are the leader in this growing industry. As they expand in this area, we expect their revenues in healthcare support services to continue to grow at a fast rate and make up an increasingly large portion of their business. We expect revenue at CVS to grow about 10% per year based on historical average growth rates and the growth rate of the healthcare support services industry. We expect their operating margins to continue at the current rate. We expect their sales to capital ratio to be reflective of the current weighted average of the pharmaceutical retail and healthcare support industries.
DGX	DGX has been growing at roughly the risk free rate over the past 7 years. They have not shown a robust ability to generate growth and we do not anticipate their growth rate to sustainably increase in the near future. Their operating margins are consistent with the industry and we do not expect these to change. There is no shift in the way they are reinvesting their funds, so we assume a similar sales to capital ratio to historical rates.

Summary of Valuation Findings

Valuation	Estimated Share Price	Actual Price (as of 5/9/15)	% Difference	Recommendation
JNJ	93.43	101.47	-7.92%	Sell
CLUB	7.09	6.81	4.11%	Buy
LULU	68.31	65.49	4.31%	Buy
HOLX	17.44	33.95	-48.63%	Sell
CAH	$84.02	86.65	-3.04%	Sell
CVS	$99.61	100.66	-1.04%	Sell
DGX	71.61	70.57	1.47%	Buy

Our analysis indicates that three of our health and wellness companies are slightly undervalued (CLUB, LULU, and DGX), with potential upside ranging from 1.47% to 4.31%. Our other four companies are overvalued (JNJ, HOLX, CAH, CVS), with potential downside ranging from -1.04% to -48.63%. Of note, HOLX was found to be significantly overvalued based on current market price. We believe that its poor corporate governance, historical volatile cash flows, and history of questionable project choices make this company a good candidate for short selling.

Recommendations to Enhance Firm Value

In the table below, we provide the following recommendations for enhancing value based on our findings on the key variable driving value and the company's investment, financing, and dividend policies. The two most common variables found to play a significant role in driving value were growth rate and profit margins.

	Key Variables	Recommendations to Increase Firm Value
JNJ	CAGR	JNJ should improve its efficiency growth by using its existing assets better. The firm is currently significantly under-levered compared to their optimal debt ratio 70%. Therefore, increasing their debt ratio by investing in new projects in household products and pharmaceuticals will decrease their COC and deliver more value to shareholders.
CLUB	Target EBIT in year 10	CLUB should increase cash flows from existing assets as soon as possible. It needs to better manage its clubs and other assets to prevent greater increases in debt. CLUB will need to take an initial period to pay off debt with their additional cash flows. Therefore, CLUB faces at least another fiscal year of lower revenue growth as it manages its debt ratio.
LULU	CAGR	For the purposes of the valuation, we used a long term growth rate of 18.93% provided by equity research experts, which is higher than the industry average of 8.2% but still much lower than the historical growth rates of the company. The company has consistently achieved 20+% CAGR, but as the company matures I would expect the growth rate to decline. LULU should maintain a healthy growth rate by making other quality investments and continuing their path to expansion into other geographies/categories.
HOLX	CAGR	HOLX should increase firm value by increasing their expected growth during their short high-growth period. Because their CF's are volatile and they have had consistently negative FCFE's, it is important for HOLX to continue their zero dividend/buyback policy and instead look for ways to optimize their project investments in diagnostics and Women's health equipment. By improving the quality and returns from their investments, HOLX would be able to increase its debt ratio and move towards its optimal capital structure without locking itself into dividend/buyback commitments.
CAH	Cost of Capital	CAH should take advantage of the amount of consolidation that is taking place in the healthcare industry; after all, these changes demand solutions from a healthcare support services company like CAH (especially given CAH's positions as the trusted, established industry leader). By providing supply chain management solutions and consulting engagements to both pharmaceutical companies and increasingly larger hospitals and healthcare facilities during this high growth/high consolidation period, CAH will surely generate higher cash flows from their existing assets. Since CAH is currently over-levered, it is important for CAH to take a pause in its dividend policy in order to optimize its cost of capital - it should use its retained earnings to pay back some of its debt.
CVS	Target EBIT in year 10	Increasing cash flows from existing assets would be an effective way to increase value by increasing the operating margin. CVS is currently well below its optimal debt ratio 60% and bringing it to the optimal by investing in good projects would lower the COC. As CVS increases their share of the pharmacy benefits market, they will likely be able to generate higher operating margins by offering combined pharmacy benefit and retail pharmacy services to consumers.
DGX	Target EBIT in year 10	DGX is already close to its ideal cost of capital. It should focus instead maintaining pre-tax operating margins at >15%. Sales to capital ratio has little effect. With conservative figures for these numbers, and in light of a recent jump in revenues, DGX may be undervalued. Although DGX is a mature company with stable cash flows, it faces new challenges on the horizon with increased regulation on utilization management of medical diagnostic testing. This uncertainty in demand for DGX's services should play a factor in the firm's decision on whether to retain some financial flexibility or to return more cash to its stockholders.