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Studies in Applied Finance

INVESTMENT THESIS FOR COSTCO WHOLESALE CORPORATION (NASDAQ: COST)

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Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise

Investment Thesis for Costco Wholesale Corporation (NASDAQ: COST)

By Arshad Amin Ajani

About the Series

The studies in Applied Finance Series is under the general direction of Professor Steve H. Hanke (hanke@jhu.edu), Co-Director of The Johns Hopkins Institute of Applied Economics, Global Health, and study of Business Enterprise and Dr. Hesam Motlagh (hnekoor1@jhu.edu), a Fellow at The Johns Hopkins Institute of Applied Economics, Global Health, and study of Business Enterprise.

This working paper is one in a series on applied financial economics, which focuses on company valuations. The authors are mainly students at The Johns Hopkins University in Baltimore who have conducted their work at the Institute as undergraduate researchers.

Author

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Summary

The working paper is an in-depth financial analysis of Costco Wholesale Corporation (COST). Our analysis examines COST's business model and is combined with our proprietary Discounted Cash Flow (P-DCF) model and a Monte-Carlo simulation. This results in distributions of probable free cash flows. In addition to these quantitative factors, we also examine compensation plans of Costco's executives to assess the degree to which the executives' compensation incentives are aligned with the objective of creating shareholder value.

Acknowledgements

Many thanks to Prof. Steve Hanke and Dr. Hesam Motlagh for guidance and draft comments.

Keywords: COST, Costco, Wholesale, Discounted Cash Flow, Free Cash Flow, Monte-Carlo Simulations, Investment Thesis, Compensation.

Rating: Sell – Estimated Free Cash Flow per Share: $131.05

Company Name	**Costco Wholesale Corporation**
Date	**10/16/17**
Fiscal year ends (current period)	**08/2017 (08/2017 Q4)**
Current Price	**$157.49**
52 week high (date)	**$182.72 (06/06/17)**
52 week low (date)	**$136.59 (11/04/16)**
Market Cap	**$69,432M**
Enterprise Value	**$70,613M**
Total Debt	**$6,659M**
Cash	**$5,779M**
Net Debt/Enterprise Value	**1.25%**
Dividend	**1.26%**
Shares Outstanding/Float	**437.20M/429.70M**
Current P/E	**27.27x**
2019 P/E (EPS)	**22.66x ($7.01)***
2018 P/E (EPS)	**24.68x ($6.44)***
2017 P/E (EPS)	**27.28x ($5.82)***
2016 EPS	**$5.33****
2015 EPS	**$5.24****
2014 EPS	**$4.65****

***Consensus Estimates as of 10/16/2017**

****Comparable Actual from Bloomberg**

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Executive Summary

Costco Wholesale Corporation is the largest American membership-only warehouse club. Costco is headquartered in Issaquah, Washington but opened its first warehouse in Seattle in 1983. Costco offers products across six major segments: foods, sundries, hardlines, fresh foods, softlines, and ancillary across three major geographic regions: United States, Canada, and Other International countries. Based on historical averages and insights from earnings call reports, our Probabilistic Discounted Cash Flow (PDCF) model in conjunction with Monte-Carlo simulations reveal that COST's estimated free cash flow per share is $131.05. This is based off of a very optimistic approach taking into account strong e-commerce and new warehouse location openings. Debt analysis has revealed strong corporate ratings above investment grade. Management compensation is found to be quite vague in nature and exact management incentive is hard to gauge. At the time of this evaluation (10/16/17), shares of COST are trading at $157.49, therefore our estimated Free Cash Flow per Share represents a 16.79% discount to the market share price. As there are also large uncertainties with future gas prices and foreign exchange effects, we rate COST as a **SELL.**

Catalysts & Risks

- Large dependency on US and Canadian operations that comprise 87% of net sales and 85% of total operating income in 2017
- Ability to capture, maintain, and grow strong membership loyalty and brand recognition
- Failure to develop and maintain relevant multichannel experiences for Costco members, especially with competition from Amazon delivery services
- Inability to attract, train, and retain highly qualified employees
- Volatility in gas price and foreign exchange currency rates
- Natural disasters continue to strongly effect international operations

Company Description and Historical Performance

Business Segments

Costco operates and competes with multiple industries. Its primary segment is the warehouse club that include retail merchandise that is sold to customers in mostly large, wholesale, quantities. These clubs are attractive to bargain hunters and small business owners. Warehouse clubs like Costco are able to keep prices low through their "no-frills" model which operates on a volume margin rather than a maximum profit per item basis. Examples of other warehouse clubs operating in this sector include Sam's Club and BJ's Wholesale Club, both of which operate in the United States. Costco, like the other wholesale clubs, has membership-only chains that offer yearly memberships to their customers.

Costco also competes against a larger group of retail corporations and discount department stores such as Target, Walmart, and The Kroger Company.

The Company's business operations can be broken down into merchandise categories or geographical regions. Merchandise inventory break up is as follows:

- Foods (including dry foods, packaged foods, and groceries) – ~22% of total revenue
- Sundries (including snack foods, candy, alcoholic and nonalcoholic beverages, and cleaning supplies) - ~21% of total revenue
- Hardlines (including major appliances, electronics, health and beauty aids, hardware, and garden and patio) - ~16% of total revenue
- Fresh Foods (including meat, produce, deli, and bakery) - ~14% of total revenue
- Softlines (including apparel and small appliances) - ~12% of total revenue
- Ancillary (including gas stations and pharmacy) - ~15% of total revenue [1]

For accounting purposes , the Company reports its yearly revenue data by location separated into three major categories. Costco is primarily engaged in membership warehouses in the U.S., Canada, Mexico, U.K., Japan, Australia, Spain, Iceland, and France. The three major geographic segments followed by their percentage of net sales during 2017 are as follows:

- United States Operations – 73% net sales
- Canadian Operations – 15% net sales
- Other International Operations – 13% net sales

To illustrate the impact that each geographic segment has on the overall revenue, figure 1 below shows yearly revenue by location from fiscal year 2013 to fiscal year 2017. The United States and Canada combined consist of over 80% of total revenue. For the purpose of this paper we will highlight the major changes in U.S. locations, because changes in U.S. operations greatly change our estimated Free Cash Flow. Figure 1 below emphasizes the strength of U.S. operations by illustrating the size advantage it has. However, regardless of size, U.S. operations have still been able to show strong signs of growth since 2013, even stronger than historic growth of other categories. We will have to remain cognizant of this trend when projecting future revenue growth.

[1] SEC Filing Annual 10-K Report (https://www.sec.gov/cgi-bin/viewer?action=view&cik=909832&accession_number=0000909832-16-000032&xbrl_type=v#)

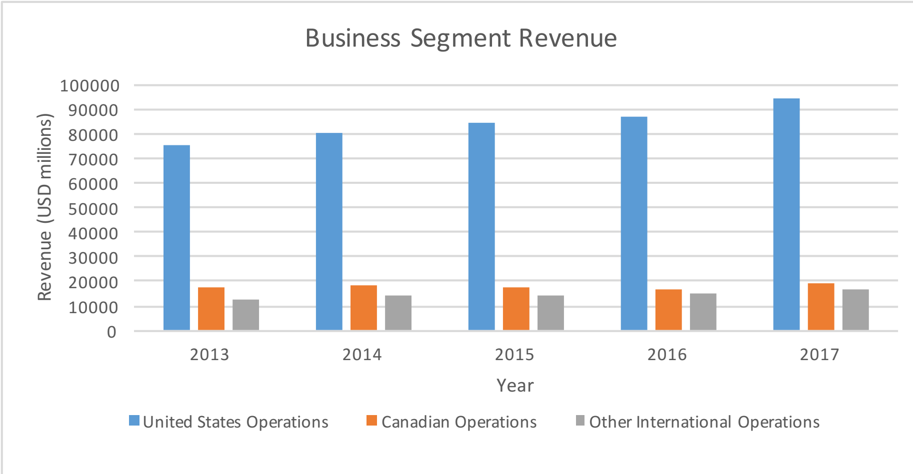


Figure 1: COST Segmented Revenue by Year

Source: COST 10-K

Historical Performance

Costco's common stock performance compared to the S&P 500 is shown in figure 2 below.

Figure 2: COST Stock Performance vs. the S&P 500

Source: Bloomberg Terminal. Command <GP> Accessed: 10/16/17

Over the last five years, Costco's share price has kept a consistently general upward trend along with the market. Indeed, COST has a beta of 1.0, meaning it moved almost completely in tandem with the broader market. However, gas prices and foreign exchange rates largely affect Costco's stock price. Over the past five years, foreign exchange rates have increased interest income as much as 94% and decreased it by as much as 10%. Discussed in the earning call as well as in the Company's annual 10-K report, the recent large swings in gas prices and currency exchange rates have been a strong predictor of positive or negative years for the Company.

One key event to note during 2017 is the Amazon acquisition of Whole Foods Market, Inc. After the acquisition on June 16th, 2017, Costco's stock price plunged 7.2%. This acquisition affected not only Costco but also much of its peer group, including Target, Walmart, and Kroger. Although this deal could provide Whole Foods Market with a competitive edge, as many investors suspect, we contend the fundamental prospect and valuation of the Company remained unchanged during this buyout proposition as a result of Costco's unique business model of offering products at cost in exchange for an annual membership. However sensitive COST's share price is to AMZN's recent moves, we believe that Costco's loyal membership base will continue to grow regardless of this recent acquisition.

Next, it is important to discuss the Company's gross margin and its focus on ensuring stability in Merchandise Costs and Selling, General, and Administrative costs. Figure 3 tracks Merchandise costs and Selling, General, and Administrative costs over the last five years since 2013.

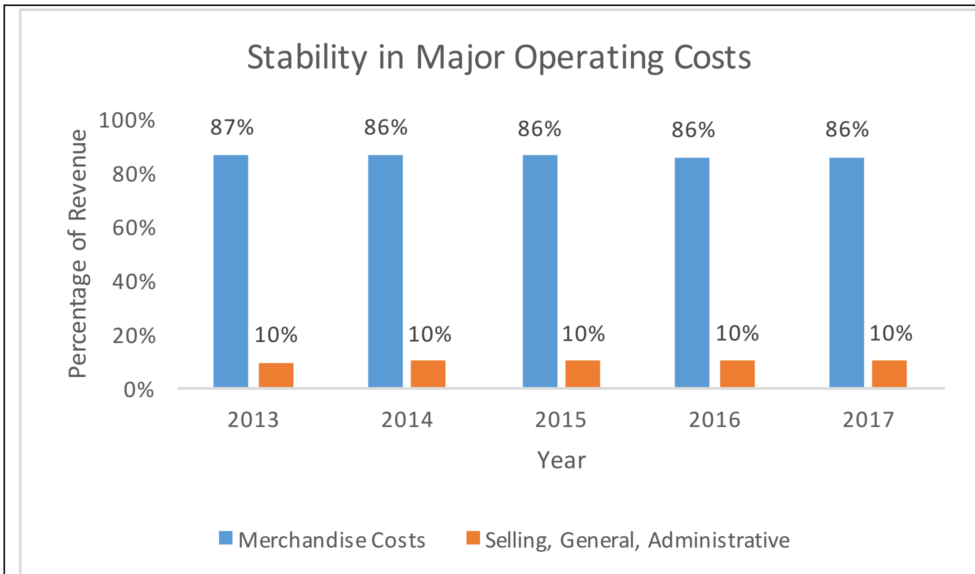


Figure 3: COST Stability in Merchandise and Selling, General, and Administrative Costs

Source: COST SEC 10-K

From figure 3 above, we can implicitly observe the low gross margin (1-Merchandise Cost) that Costco operates with. This is largely due to Costco's business model of focusing on selling volume with smaller profit margins. However, when we see that recent gross margin is only around ~11% we must also observe operating costs to evaluate the Company's historical efficiencies. As a percentage of revenue, we find that Costco's ability to keep its operating costs stable has been very effective. On the other hand, it is also hard to see any major growth in efficiencies or potential increase in gross margin from cutting these costs. Costco's main avenue to experience gross margin increase is simply by focusing on increasing total Net sales. Management discussed reaching their expansion goals of increasing top line revenue numbers by increasing memberships across regions as well as growing their online presence. However, there were no specific targets for cutting costs or changes in operating leverages to follow.

Over the past several years Costco has been committed to opening, on average, 25 store locations per year with 60% of these stores opening in the United States. Referring back to our gross margin analysis, it is clear that the Company has been successful in increasing their percent gross margin in recent quarters. This is also achieved by leveraging their economies of scale, by keeping the costs of opening new store locations low. Even after taking into consideration any cannibalization of sales that may occur in these new locations, Costco's revenues have seen strong upward trends that further help bolster their margins.

Model Assumptions

Now that we have discussed the historical performance of COST, we turn to the model that will be the foundation for our quantitative analysis. The PDCF uses historical averages and standard deviations of growth and margins as the underlying basis of our future projections. For Costco, we projected revenue across each of the company's geographic locations. We find that Costco models better when broken up into multi-business geography segments rather than multinational businesses as per its management structure and growth prospects that effect certain locations rather than specific business lines. Further, data that was provided on the 10-K SEC filings for revenue growth were better organized for each business segment rather than each region.

Balance Sheet and Income Statement

The results are contained in the 'Balance Sheet' and 'Income Statement' tabs of the accompanying spreadsheet.

Starting at the top of the balance sheet we noticed a substantial decrease in Cash and Cash Equivalents from 2015 to 2016. This is primarily a result of accelerated vendor payments of approximately $1.70 billion made in the last week of fiscal 2016, in advance of implementing a modern accounting system at the beginning of the next fiscal year. End of year payments to vendors have previously also created small fluctuations in cash balances; however, 2016 was abnormally large and so we highlight it here.

In 2017, a large portion of current debt totaling $2.20 billion was re-paid. This included a $1.10 billion payment of a 1.125% Senior Note paid in May 2017 which included the principal and interest accrued and a $1.10 billion payment of a 5.50% Senior Note that was paid off in March

2017 which also included the principal and interest accrued. Both debt payments were completed through the company's existing sources of Cash and Cash Equivalents and Short-Term investments. We will discuss other outstanding debt obligations later in this investment thesis.

Switching over to the income statement, we notice that fiscal year 2017 was relatively strong in terms of growth in Net sales. This large jump from 2016 is directly correlated with an increase in new warehouse locations. Other strong factors for this growth consist of: increase in gasoline prices and favorable foreign exchange effects. Net sales were also negatively impacted by slower than expected growth from Other International Operations. Comparable store sales also drove the Company's strong sales growth by hitting record shopping frequencies and an increase in average consumer ticket (amount spent per customer per visit). Lastly, cannibalization of sales between warehouse locations also has had a strong negative impact on the growth of sales,[2] however the overall net effect of opening warehouse locations is still very much positive.

Merchandise costs consist of the purchase price of inventory sold, shipping charges, and all costs related to the Company's depot operations. Merchandise costs increased substantially in fiscal 2017 as a result of stronger sales. No other description has been given for this category, but overall effect of Merchandise Costs on gross margin has left a positive impact on percentage of gross margin. Selling, general, and administrative (SGA) costs increased in 2017 especially in the fourth quarter (Q4) because of Hurricane Harvey.

Lastly, as a repeating theme throughout this investment thesis, foreign exchange rates took a large toll on Interest Income in 2017. Effects of foreign exchange decreased Interest Income by $12.00 million while the remaining $6.00 million decrease was due to organic decline.

Value Drivers

The results are contained in the 'Value Drivers' tab of the accompanying spreadsheet

The top portion of the tab starts with annual Revenue followed by its annual growth rate. This helps us understand exactly how strong 2017's growth rate was compared to the previous five years. This reiterates the volatility of Costco's business based on two main factors: gasoline prices and foreign exchange effects. Although 2017 was historically high compared to the past few years, management believes that revenue growth close to 8.00% can be achieved moving forward. In 2017, net sales increased by 9% primarily due to a 4% increase in comparable store sales during the same year. There is a large dependence on overall economic factors to positively affect Net sales. However, management states that much of this year's growth can also be attributed to their new e-commerce platform that they introduced a year ago. The new e-commerce platform is still in progress and is slowly making its way to Costco Warehouse locations.

[2] Transcripts, S. (2017, August 17). Costco Wholesale Corporation (COST) Q4 2017 Results

This year, e-commerce was up 15% to $4.60 billion in US, Canada, UK, Mexico, Korea and Taiwan which are the primary markets that currently have this service. For Q4, the Company reported record growth of 27% in the same segment. Improved search functionality, streamlined checkout process, improved member ability to track orders, and the addition of new well-known and high end manufacturers such as Marmot, Spyder, ExOfficio, GE Appliances and Jiffy Lube Services will carry this segment and help Costco achieve strong growth especially in the United States operations for the next few years.

As analyzed earlier, historical Merchandise cost for the Company as a percentage of total revenue basis has remained stable. SGA and Preopening expenses for new locations also show similar signs of stagnation and will make for a very reliable assumption when we begin to tune our model.

Turning to the cash flow drivers, we define Working Capital as: Current Assets – Current Liabilities – Cash and Cash Equivalents. Because of our unique definition for Working Capital combined with Costco's substantial amount of cash on hand, the Working Capital calculation reveals a negative working capital for most years. Later, we will discuss credit facilities and other debt instruments. However, management states that the Company also uses credit facilities to help provide for Working Capital needs.

As Costco continues to focus on increasing the number of locations and warehouses that they own and lease, Capital Expenditures (CAPEX) have increased over the past few years to 2.75% of total revenue in fiscal year 2017. This figure represents a 13.00% decrease from 2016. However, CAPEX is expected to remain relatively steady over the long run as Costco continues to focus on increase their number of warehouses. We do not expect major deviation from their historic yearly warehouse openings.

Model Results

Values are contained in the P-DCF and MC tabs of the accompanying spreadsheet

For the purpose of this investment thesis, we have decided to portray optimistic assumptions to help solidify our sell recommendation.

We begin with our Model Tuning Parameters. As previously mentioned, 2017 was an unusually strong year for Costco and as such we saw a significant increase in Revenue and decrease in SGA costs. However, for this model we have decided to project similar growth rates for the Company into the future. This will help us asses the growth potential of the Company and help us gain a better understanding of potential Estimated Free Cash Flow per Share.

As such, we begin by targeting an 8% Revenue growth rate over the next 10 years. In the annual report and especially through the earnings call, management suggested that strong growth in the future is expected. Consensus estimates also target a growth play for Costco in the future. However, most estimates and primary sources suggest long term growth of Net sales to decrease and stabilize after a few years of strong growth from newly implemented e-commerce strategies. Here, we have projected sales to grow at an 8% rate continuously for the next 10 years without any decline or plateau to a more likely long-term growth rate.

Accordingly, we have projected the highest growth rate to the United States Operations which we set to this year's growth rate of 8.44% which is around 3.00% higher than the historical average over the last five years. Secondly, we project Canada (as the second strongest grower in 2017) to grow at a rate 3.70% higher than its five-year historic average. Lastly, we create a scenario where the smallest portion of Revenue, Other International Operations, is projected to grow at a rate approximately equal to its fiscal 2017 rate of 8.00% (which is 1.00% more than its historic average). Here, we pushed the limits of expected growth in all three categories which will create a biased "best case scenario" for Costco.

Management stated in the 10-K that the decline in SGA in 2017 was due to the new co-branded Visa Credit Card. They also specified that this decline in SGA costs was an anomaly and that it would be tough to match next year. However, because we wanted to create an optimistic situation that is still within the historic bounds of Costco's previous performance, we have projected SGA costs to mimic 2017 trend. We have considered Costco's historic average for SGA and have projected for a slight margin of improvement. Merchandise costs have also been set close to 2017 margins to account for similar long-term asset growth as the Company prepares for more sales and store openings in the future.

Non-operating costs, as exemplified in the Value Drivers tab, have been very stable over the past five years, regardless of the quantity of sales. As such, we find it appropriate to leave non-operating costs at their historic average as there is also no management guidance of any future changes in these costs.

Over the past few years, the Company has tried to open around 25 to 30 new warehouses (total of 715 warehouses as of September 2017) each year and for 2017, this target was reached. Combining this with a lack of management guidance on any changes of warehouse growth, we project long term capital expenditure (CAPEX) to maintain its long-term historic growth rate.

Next, we compare the model tuning parameters that include: Free Cash Flow Return on Invested Capital (FROIC), Potential Free Cash Flow Yield (PFCFY), Long Term Asset Turnover (LTAT), and Long Term Asset/Invested Capital (LTA/IC). Although our assumptions are on the optimistic side of the spectrum, it is important to check that our model does not go too far out of line with the historic range. Comparing our model's projections versus historical minimums, averages, and maximums we notice that our model is reasonably near historic data. Although our model pushes the model assumption, we try to reasonably evaluate Costco's ability to strive for long-term growth. Figure 4 below represents the model tuning parameter comparisons.

Model Tuning Parameters								
	Model				Historical			
	Min	Avg	Max	Trend	Min	Avg	Max	Trend
FROIC	13.39%	14.38%	15.13%		10.23%	10.98%	12.44%	
PFCFY	2.29%	2.30%	2.31%		1.83%	1.95%	2.05%	
LTAT	0.20	0.20	0.20		0.20	0.21	0.22	
LTA/IC	118.56%	125.85%	132.23%		110.87%	116.03%	123.88%	
% DCF in TV	55.11%							

Figure 4: Model and Historical Model Tuning Parameters

Source: COST SEC 10-K and P-DCF Tab Screenshot

The free cash flow per share obtained from these assumptions is $131.05. The current price upon this evaluation is $157.49 per share. This represents a 16.79% downside to this investment. We are having a hard time justifying the current share price with a 10% discount rate, let alone any potential upside.

To asses how well-determined these forecasted values were, we performed a Monte-Carlo (MC) Simulation (see figure 5). Further, we notice that the MC Simulation is relatively dominated by the Merchandise costs. However, reflecting back on historic numbers we can asses the practicality of our assumption when we realize that historic Merchandise costs have been very stable over the past five years.

Our sensitivity analysis of the MC simulation can be viewed in figure 6. As we notice, Merchandise Costs strongly affect the sensitivity of the Monte-Carlo simulation. However, as mentioned before we believe that Merchandise costs should account for similar long-term asset growth that we have seen in 2017 as the Company prepares for more sales and store openings in the future. As such we have confidence in our 85% assumption but do acknowledge the strong weight it has on our model.

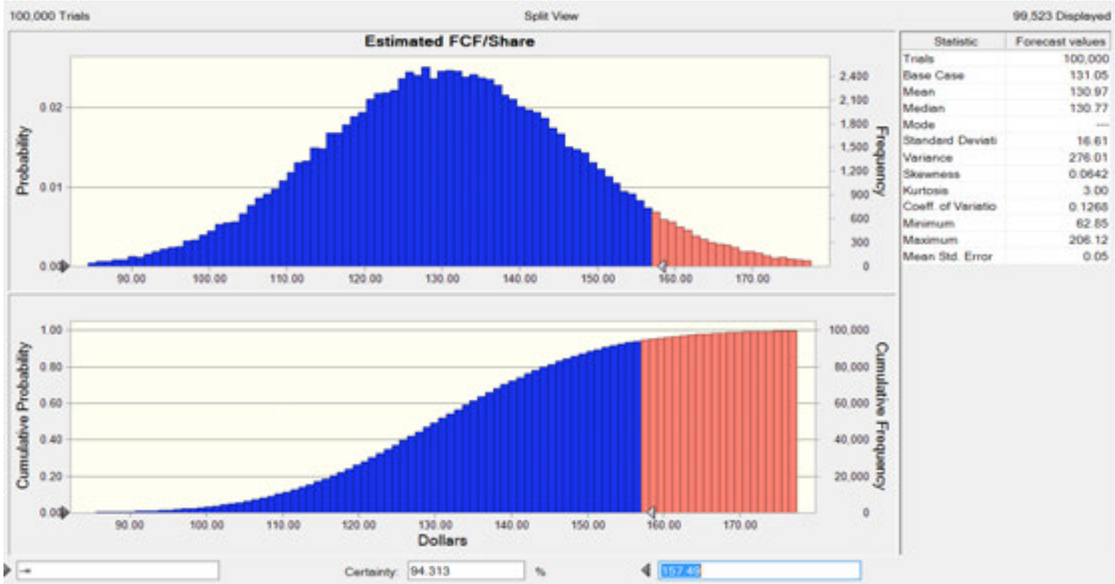


Figure 5: Monte-Carlo Simulation

Source: Crystal Ball, Monte Carlo Simulation on Estimated FCF/Share

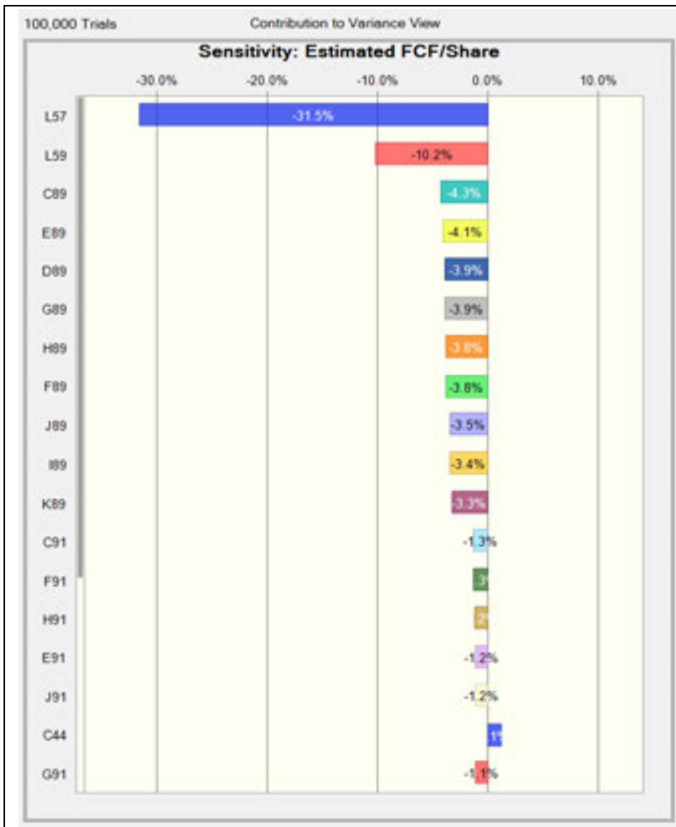


Figure 6: Monte-Carlo Simulation Sensitivity Analysis

Source: Crystal Ball, Monte Carlo Simulation Sensitivity Analysis on Estimated FCF/Share

Qualitative Analysis

A. Capital Sources Analysis

As mentioned earlier, Costco prioritizes using debt to fund their working capital needs on a daily basis. The Company uses Cash and Cash Equivalents as well as proceeds from Short-term Investments to pay off the long-term Senior Note debt obligations. Currently, the company is responsible for the following Senior Notes including those that were due earlier this year. Figure 7 below outlines the Total Long-Term Debt the Company currently holds. March 2017 and December 2017 maturities have already been paid as of March and May of this year, respectively ($2.20 billion in total).

	2017		2016	
	Carrying Value	Fair Value	Carrying Value	Fair Value
5.5% Senior Notes due March 2017	$ 0	$ 0	$ 1,100	$ 1,129
1.125% Senior Notes due December 2017	0	0	1,099	1,103
1.7% Senior Notes due December 2019	1,198	1,201	1,196	1,219
1.75% Senior Notes due February 2020	498	501	498	508
2.15% Senior Notes due May 2021	994	1,007	0	0
2.25% Senior Notes due February 2022	497	504	497	512
2.30% Senior Notes due May 2022	793	805	0	0
2.75% Senior Notes due May 2024	991	1,010	0	0
3.00% Senior Notes due May 2027	986	1,009	0	0
Other long-term debt	702	716	771	803
Total long-term debt	6,659	6,753	5,161	5,274
Less current portion	86		1,100	
Long-term debt, excluding current portion	$ 6,573		$ 4,061	

Figure 7: List of Current Long-Term Debt Obligations

Source: COST 10-K

The Company also uses short-term credit facilities as its main form of short-term borrowing. Total short-term borrowing from credit facilities increased from $400 million in 2016 to $833 million in 2017. At the end of 2017 and 2016, there were no outstanding borrowings under these credit facilities. During 2017, the amount of short-term borrowing was deemed "immaterial." However, in 2016, the average short-term borrowing was around $90.00 million and carried an average interest rate of just 0.52% during the year.

The Company's current Net Debt/Enterprise Value (EV) is 1.25% (Net Debt/EBITDA is 16.05%). This shows that management has been on track to keep a cash balance large enough to fund debt obligations. The Company's corporate debt ratings are as outlined in figure 8. Although Costco's debt makes up a small percentage of their total EV, it is important to consider potential risk. As seen in figure 8, the Company maintains strong investment grade corporate ratings by three major rating agencies and continue to have "stable" or "positive" outlooks. This is a strong sign that taking on debt is a nonissue.

Figure 8: COST Corporate Bond Ratings

Source: Bloomberg Terminal. Command: <CRPR> Accessed: 11/01/17

As for debt distribution, the Company's debt timeline is full of debt obligations that expire almost every year for the next five years. Although initially alarming, Costco has a strong history of carrying a large amount of cash (relative to long-term debt). Figure 9 below graphically represents the debt timeline.

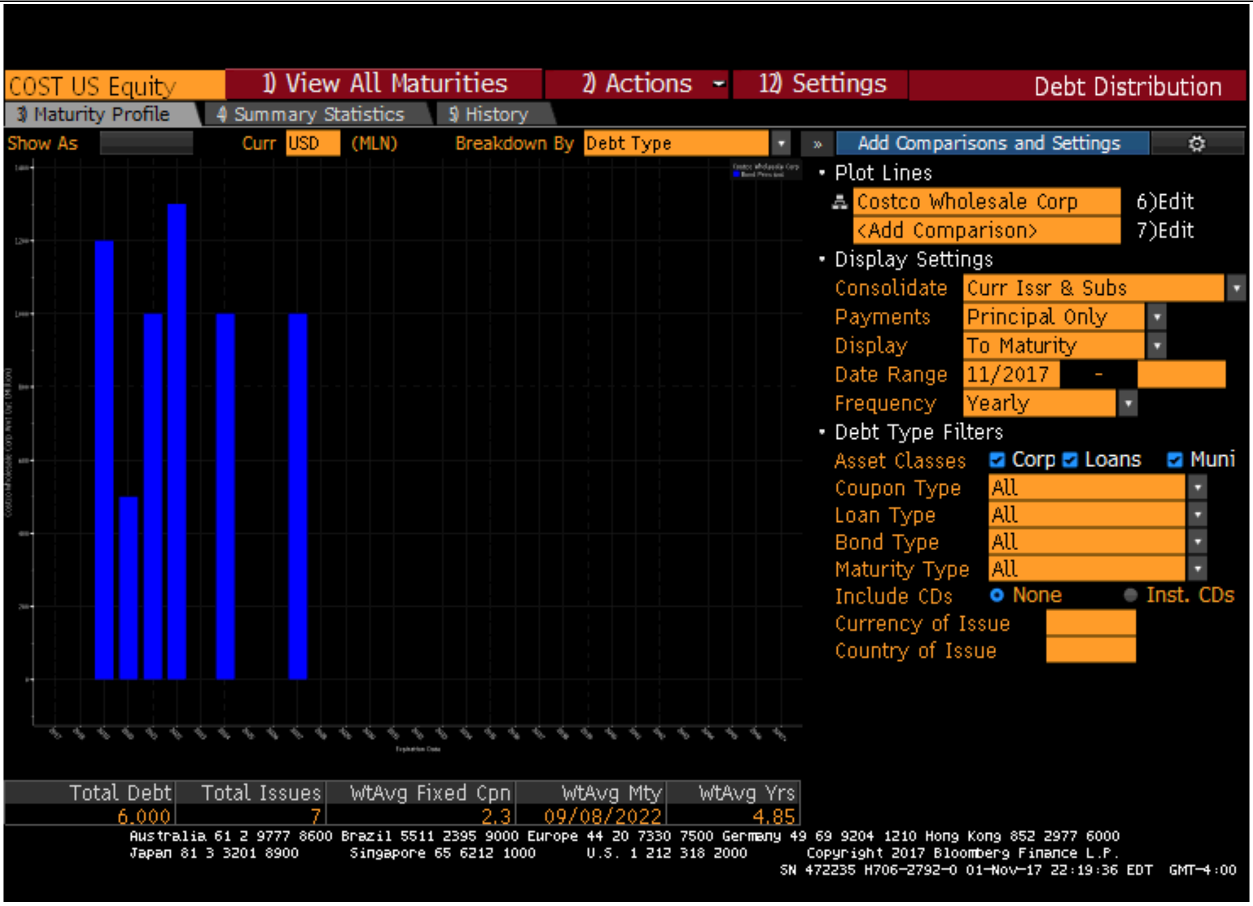


Figure 9: Debt Distribution Timeline

Source: Bloomberg Terminal. Command: <DDIS> Accessed: 10/28/17

B. Historical Allocation Analysis

A strong trend that the Company has indulged in is keeping the amount of CAPEX constant. This is directly a result of opening up new international warehouse locations. The Company will focus its attention on operations within the United Sates; however, significant effort is being made to increase store locations in Canada and abroad as well. This effort to remain consistent in the number of warehouse openings per year has been mentioned earlier, but is also a key part of their capital allocation strategy to boost top-line sales growth. Management believes that the cannibalization of sales between store locations is strongly overcome by the increase in Revenue and membership.

During the past five years, Costco has not attempted to make acquisitions. The most recent buyout the Company participated in was in 2012 when they bought out the 50% non-controlling interest in the Company's joint venture in Mexico. Subsequent to the acquisition, Costco included 100% of Mexico's operations within "net income attributable to Costco" in the consolidated statements of income. Costco is not expected to stray from their historical lack of acquisitions and as such, no adjustments were made in the model for any such future buyout.

Costco uses two methods to return capital to its shareholders. One is through dividends and the other is through yearly stock repurchase programs. Each year management authorizes around $4.00 billion of share repurchases. During the past five years Costco has never fully executed these share repurchases. However, they frequently repurchase large chunks of stocks averaging around $350.00 million which, in our opinion, pushes the stock price even higher above its already overvalued price.

Dividends are more systematically approached with around a $0.05 increase each year to their quarterly dividend. This sends a strong sign to investors that the company is meeting its expectations and is growing at a steady pace. This increases investor confidence and keeps investors satisfied. Figures 10 and 11 below show yearly share purchases and quarterly dividend amounts by year, respectively.

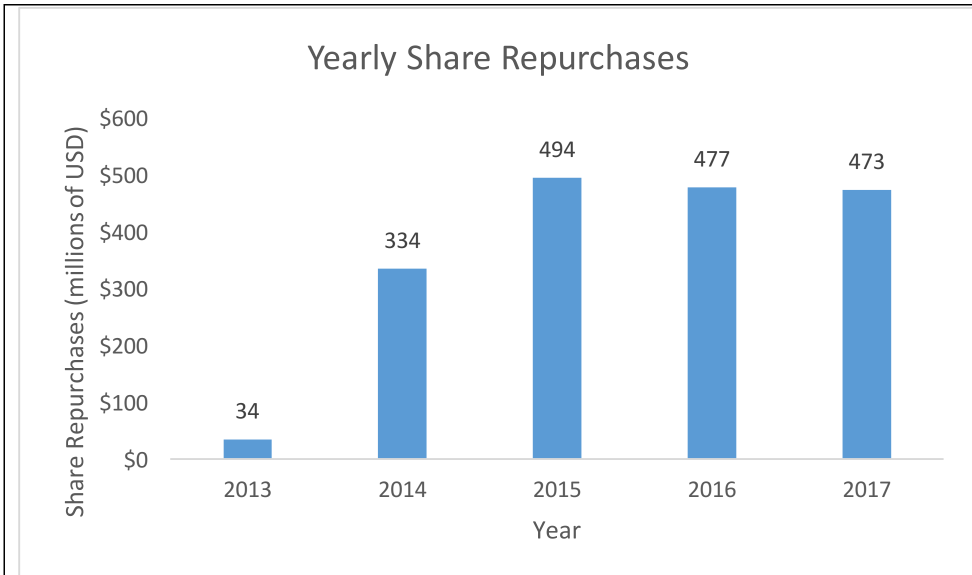


Figure 10: COST Historic Yearly Share Repurchases

Source: COST SEC 10-K

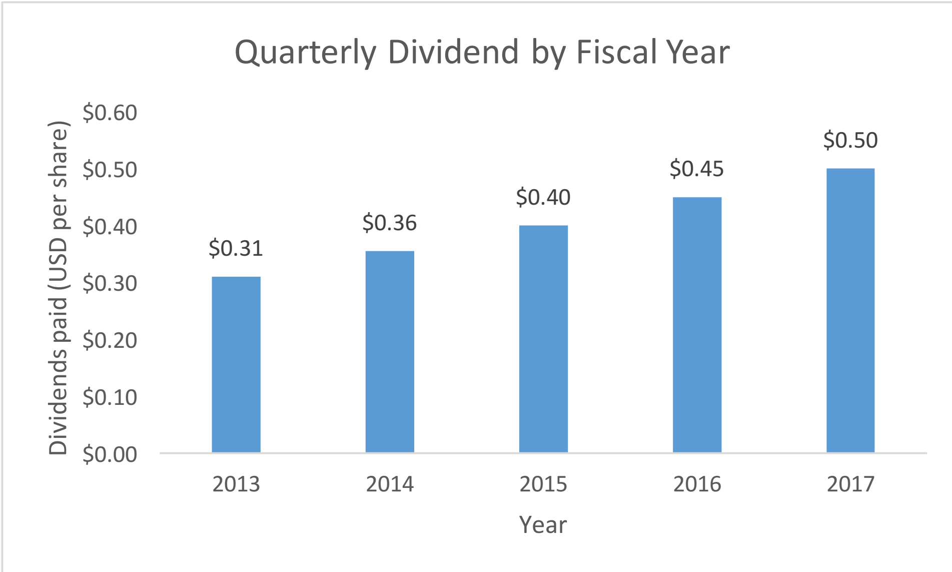


Figure 11: COST Historic Dividend Payment

Source: COST SEC 10-K

C. Compensation and Corporate Governance

Before diving directly into management compensation, we will evaluate the board of directors that participate on various committees, including the Compensation Committee. The Compensation Committee's function is to review the salaries, bonuses, and stock-based compensation provided to executive officers of the Company and to oversee the administration of the Company's compensation programs. As such, directors have a strong impact on management's yearly compensation package.

Name	Current Position With the Company	Age	Expiration of Term as Director
Jeffrey H. Brotman	Chairman of the Board of Directors	74	2018
Susan L. Decker	Director	54	2017
Daniel J. Evans	Director	91	2018
Richard A. Galanti	Executive Vice President, Chief Financial Officer and Director	60	2017
Hamilton E. James	Lead Independent Director	65	2019
W. Craig Jelinek	President, Chief Executive Officer and Director	64	2019
John W. Meisenbach	Director	80	2017
Charles T. Munger	Director	92	2017
Jeffrey S. Raikes	Director	58	2018
James D. Sinegal	Director	80	2018
John W. Stanton	Director	61	2019
Mary Agnes (Maggie) Wilderotter	Director	61	2019

Figure 12: Composition of Board of Directors

Source: COST SEC DEF-14A

Figure 12 represents a 75% independent Board of Directors. Costco, like many other corporations, tries to separate management from Committee positions to prevent conflicts of interest. As of August 2017, Jeffrey H. Brotman passed away and chief operating officer and direct of Blackstone, Hamilton Evans "Tony" James replaced Brotman as the Chairman of the Board. This tilted the board even further towards independent directors.

Compensation for directors is heavily weighted towards Stock Awards. Each non-employee director earns $30,000.00 per year for serving on the Board and an additional $1,000.00 for each Board and committee meeting attended. For fiscal 2016, non-employee directors were also granted 2,150 restricted stock units (RSUs). These stock units are vested over three years, beginning on year after they have been awarded. Figure 13 outlines exact compensation amounts for each director.

Name	Fees Earned or Paid in Cash ($)[1]	Stock Awards ($)[2]	All Other Compensation ($)[3]	Total ($)
Susan L. Decker	42,000	332,014		374,014
Daniel J. Evans	44,000	332,014		376,014
Hamilton E. James	35,000	332,014		367,014
Richard M. Libenson	35,000	332,014	338,408	705,422
John W. Meisenbach	35,000	332,014		367,014
Charles T. Munger	45,000	332,014		377,014
Jeffrey S. Raikes	38,000	332,014		370,014
Jill S. Ruckelshaus	17,000	332,014		349,014
James D. Sinegal	35,000	332,014		367,014
John W. Stanton[4]	31,789	238,382		270,171
Mary Agnes (Maggie) Wilderotter	34,982	332,014		366,996

Figure 13: Compensation Table for Board of Directors

Source: COST SEC DEF-14A

Elements of management compensation include the following segments:

1. Performance-based RSUs
2. Base salary
3. Cash bonus
4. Other elements

These elements are sorted into two different lengths of compensation: short-term and long-term performance. Short-term incentives are evaluated on a twelve-month basis and consists primarily of RSUs and to a lesser extent, cash bonuses. Longer-term incentives also consist primarily of RSUs that vest over a five-year period and to a lesser extent certain benefit plans (i.e. deferred compensation plan and 401(k) retirement plan matches).

Chief Executive Officer (CEO) compensation consists of $700,000 annual base salary (which is unchanged from the prior year) and a cash bonus of up to $200,000 (also unchanged from 2015) which is determined by the Board of Directors (the Board) or Compensation Committee (the Committee). The RSU award is also determined by the Board or the Committee at the end of the year. For fiscal 2016, the Committee granted 35,190 performance-based RSUs to Mr. Jelinek. Also for 2016, the CEO received a cash bonus of $81,600. The cash bonus was determined by the Company's progress toward its pre-tax income goal (which was not fully achieved in 2016).

Other Named Executive Officers (NEOs) 2016 compensation consists primarily of performance-based RSUs. The exact amounts awarded were based on the recommendations of Mr. Jelinek. Salaries for other NEOs were based upon the recommendation of Mr. Jelinek, who focused on the amount of increase deserved compare to prior year's salary level. Base salaries for 2016 were increased by 3.00% from fiscal year 2015. Other NEOS received cash bonuses of up to $52,640 (less than 2015) as a result of not meeting pre-tax income goal for the Company. Bonus criteria were approved by the Committee and were based off Mr. Jelinek's recommendations. Mr. Jelinek's recommendation for 2016 included approximately 65.00% of total eligible amount of up to $80,000.

Aside from CEO recommendations, bonus-eligible employees are measured by the Company's attainment of its internal pre-tax income target. For 2016, the target was $3.64 billion using generally accepted accounting principles (GAAP) basis. 99.00% of the target was achieved as the actual pre-tax income was $3.62 billion. Summary compensation table for CEO and other NEOs are as outlined in figure 14.

Name and Principal Position	Year	Salary ($)[1]	Bonus ($)[2]	Stock Awards ($)[3]	Change in Pension Value and Nonqualified Deferred Compensation Earnings ($)[4]	All Other Compensation ($)[5]	Total ($)
W. Craig Jelinek	2016	700,000	81,600	5,563,064	57,227	101,385	6,503,276
President and Chief Executive Officer	2015	698,079	188,800	5,322,962	35,319	95,233	6,340,393
	2014	651,731	90,400	4,783,200	8,541	90,786	5,624,658
Jeffrey H. Brotman	2016	650,000	81,600	5,563,064	78,842	108,248	6,481,754
Chairman of the Board	2015	650,000	188,800	5,322,962	45,513	103,303	6,310,578
	2014	650,000	90,400	4,783,200	10,735	95,517	5,629,852
Richard A. Galanti	2016	700,001	52,640	2,915,115	117,177	110,480	3,895,413
Executive Vice President, Chief Financial Officer	2015	699,041	75,520	2,794,440	74,173	102,583	3,745,757
	2014	683,654	36,160	2,511,180	17,859	103,915	3,352,768
Dennis R. Zook	2016	657,730	50,223	2,941,903	21,094	105,944	3,776,894
Executive Vice President, COO-Southwest Division & Mexico	2015	641,753	77,073	2,794,440	12,303	98,960	3,624,529
	2014	626,866	55,868	2,511,180	2,807	97,465	3,294,186
Joseph P. Portera	2016	660,231	52,039	2,915,115	26,549	115,718	3,769,652
Executive Vice President, COO-Eastern & Canadian Divisions	2015	644,431	78,259	2,794,440	18,093	110,286	3,645,509
	2014	629,713	56,047	2,511,180	5,465	108,032	3,310,437

Figure 14: Summary Compensation Table

Source: COST SEC DEF-14A

Stock ownership requirements for Costco state that all executive officers are required to own and maintain at least 12,000 shares of common stock. Further, the Company prohibits transactions that involve hedging of Company shares by directors and executive officers without the approval of the Board.

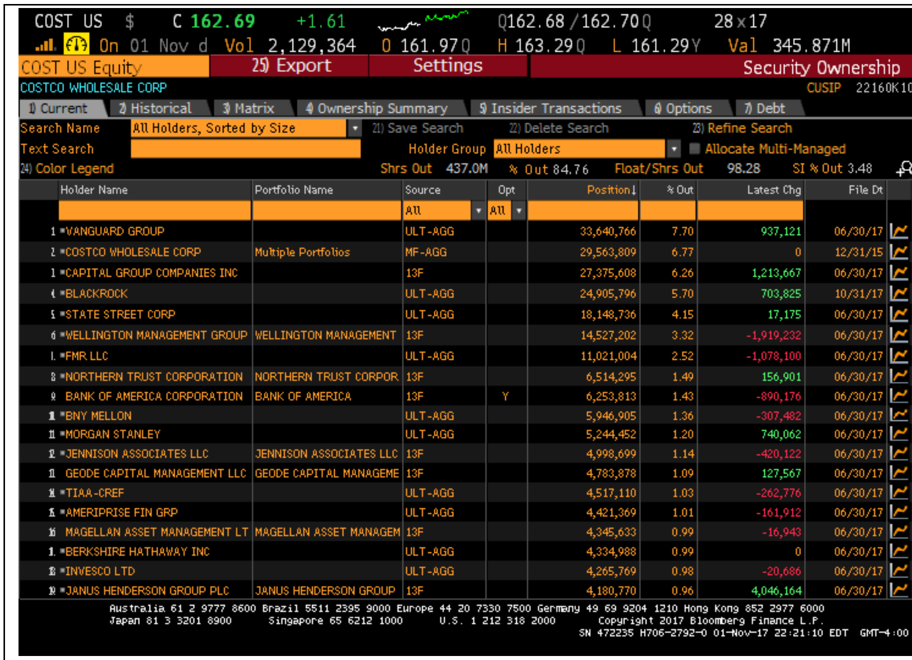
Peer companies that Costco looks at to evaluate their management compensation include: Wal-Mart Stores, inc., The Home Depot, Inc., Target Corporation, The Kroger Company, and Lowe's Companies. This list of peer companies represents a strong variety of companies bigger and smaller (in terms of market capitalization) than Costco. The Company however outlines very few peer group companies which restricts our ability to compare compensation. Whereas companies like Target and The Home Depot list over 30 companies that make up their peer group, Costco lists just five giving Costco the ability to pick and chose exactly how they want to compensate their management. Costco's compensation is nearly half of the average of its peer group. This is reflective of their very volatile performance over the last year compared to their competitors.

Overall, the Company bases compensation on two main factors: i) pre-tax income measured on GAPP basis ii) discretion of individual performance through recommendation of CEO. These two metrics are relatively vague in our opinion. Although GAAP accounting principles are used and therefore we can be sure that no odd adjustments are made, there is a lack of strength when it comes to evaluating management's ability to create long-term value for the Company. Looking at Costco's peer group it is apparent that Costco compensates its management at a relatively low level, however this list is made up of just a handful of names and is not comprehensive like many of Costco's rival companies. Therefore, we rate Costco's management compensation as neutral.

Conclusion

According to our assumptions, Costco currently has an estimated Free Cash Flow per Share that is less than the current stock price. This is after we have assumed extremely optimistic growth for the next 10 years. Secondly, management disclosure of fluctuations and anomalies in the balance sheet and income statements are very scarce. There is a strong lack of description of variation and accounting changes from year to year. Third, neutral management compensation further dilutes any potential value proposition as it is hard to gauge exactly what incentivizes management. For these reasons and a general uncertainty of gas prices and foreign exchange effects on Costco's business operations, we rate Costco a **SELL.**

Appendix



COST US $ C 162.69 +1.61 Q162.68 / 162.70Q 28 x 17
On 01 Nov d Vol 2,129,364 O 161.97Q H 163.29Q L 161.29Y Val 345.871M
COST US Equity 25) Export Settings Security Ownership
COSTCO WHOLESALE CORP CUSIP 22160K10
1) Current 2) Historical 3) Matrix 4) Ownership Summary 5) Insider Transactions 6) Options 7) Debt
Search Name All Holders, Sorted by Size 21) Save Search 22) Delete Search 23) Refine Search
Text Search Holder Group All Holders Allocate Multi-Managed
24) Color Legend Shrs Out 437.0M % Out 84.76 Float/Shrs Out 98.28 SI % Out 3.48

	Holder Name	Portfolio Name	Source	Opt	Position	% Out	Latest Chg	File Dt
1	VANGUARD GROUP		ULT-AGG		33,640,766	7.70	937,121	06/30/17
2	COSTCO WHOLESALE CORP	Multiple Portfolios	MF-AGG		29,563,809	6.77	0	12/31/15
3	CAPITAL GROUP COMPANIES INC		13F		27,375,608	6.26	1,213,667	06/30/17
4	BLACKROCK		ULT-AGG		24,905,796	5.70	703,825	10/31/17
5	STATE STREET CORP		ULT-AGG		18,148,736	4.15	17,175	06/30/17
6	WELLINGTON MANAGEMENT GROUP	WELLINGTON MANAGEMENT	13F		14,527,202	3.32	-1,919,232	06/30/17
7	FMR LLC		ULT-AGG		11,021,004	2.52	-1,078,100	06/30/17
8	NORTHERN TRUST CORPORATION	NORTHERN TRUST CORPOR	13F		6,514,295	1.49	156,901	06/30/17
9	BANK OF AMERICA CORPORATION	BANK OF AMERICA	13F	Y	6,253,813	1.43	-890,176	06/30/17
10	BNY MELLON		ULT-AGG		5,946,905	1.36	-307,482	06/30/17
11	MORGAN STANLEY		ULT-AGG		5,244,452	1.20	740,062	06/30/17
12	JENNISON ASSOCIATES LLC	JENNISON ASSOCIATES LLC	13F		4,998,699	1.14	-420,122	06/30/17
13	GEODE CAPITAL MANAGEMENT LLC	GEODE CAPITAL MANAGEME	13F		4,783,878	1.09	127,567	06/30/17
14	TIAA-CREF		ULT-AGG		4,517,110	1.03	-262,776	06/30/17
15	AMERIPRISE FIN GRP		ULT-AGG		4,421,369	1.01	-161,912	06/30/17
16	MAGELLAN ASSET MANAGEMENT LT	MAGELLAN ASSET MANAGEM	13F		4,345,633	0.99	-16,943	06/30/17
17	BERKSHIRE HATHAWAY INC		ULT-AGG		4,334,988	0.99	0	06/30/17
18	INVESCO LTD		ULT-AGG		4,265,769	0.98	-20,686	06/30/17
19	JANUS HENDERSON GROUP PLC	JANUS HENDERSON GROUP	13F		4,180,770	0.96	4,046,164	06/30/17

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Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2017 Bloomberg Finance L.P.
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Figure 15: COST Insider Holdings

Source: Bloomberg Terminal. Command <HDS> Accessed: 11/01/17

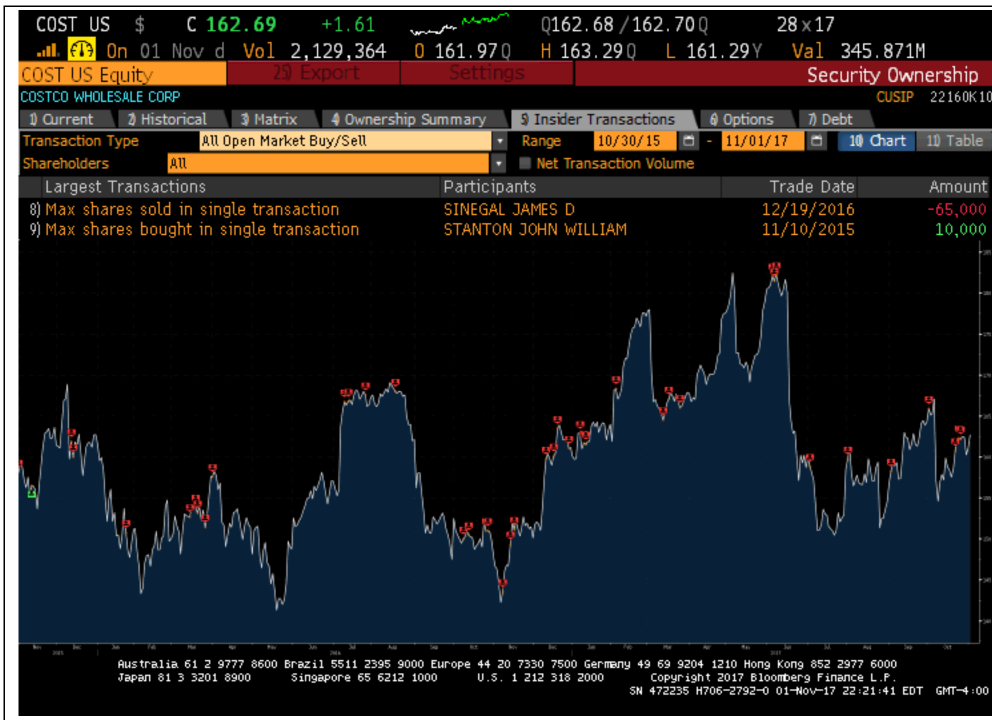

Figure 16: COST Insider Transactions

Source: Bloomberg Terminal. Command: <GPTR> Accessed: 11/01/17

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