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Final Data Translation Challenge

Financial Analysis

Costco Wholesale Corp

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Introduction to Financial Data Insights for Decision Making

Professor Robert Bujan-Meyer

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# Introduction

The primary objective of this analysis is to assess the financial performance and health of Costco Wholesale Corp (COST), who recently ranked as the third-largest retailer globally based on the report of its annual net sales performance of $237.7B in 2023. Costco is a prominent American multinational corporation within the retail industry. It operates a chain of membership-only big-box warehouse club retail stores that serves both individual customers and small- to medium-sized businesses. Costco was founded in the 1980s by Jim Sinegal and Jeffrey H. Brotman, and opened its first store in Seattle, Washington. Costco’s current CEO and director is Craig Jelinek. As of 2/22/2024, Costco Wholesale operates 875 warehouses worldwide and boasts over 129.5 million members.

In this paper, you will find a summary of Costco’s financial performance and health analysis, alongside an examination of stock prices movement during filing periods and the potential impact of the earnings report and global or local events on stock prices. The data utilized in this analysis has been sourced from the EDGAR database and Yahoo Finance, focusing primarily on Form 10-Q and Form 10-K SEC filing over the past 10 years. This filing data offers detailed insights into a company's financial performance on both a quarterly and annual basis.

Key financial ratios such as the Current ratio, D/E, and Net Profit Margin, along with additional data point including revenues, net income, and equity, have been strategically selected for their significance in evaluating crucial aspects of the company’s financial health. These metrics provide valuable insights into the company’s stability, growth potential, and overall investment opportunities.

I hope that this analysis will provide comprehensive financial insights to guide investment decisions and aid in the allocation of $100,000 for further in-depth analysis.

# Data Extraction and Processing

## EDGAR API Data Retrieval Process

Data used in this analysis is sourced from the SEC EDGAR database through the "data.sec.gov" platform, which hosts RESTful APIs in JSON-format. The User-Agent specified in the request headers for this connection is “sberg@seattleu.edu”. The initial API call was made to retrieve all company data from <https://www.sec.gov/files/company_tickers.json>.

Using the obtained tickers, I then retrieved the Central Index Keys (cik\_str) to retrieve the filling history from the company facts for Costco Wholesale Corp (COST, 0000909832) through API connection to [https://data.sec.gov/api/xbrl/companyfacts/CIK##########.json](https://data.sec.gov/api/xbrl/companyfacts/CIK).

For each file obtained from SEC EDGAR database, data structure and the content were examined to identify patterns, anomalies, and the need for data cleanup. Any duplicated data found was removed. Following this, summary statistics and visualizations were used to gain understanding into the data relationships and identify trends.

For this analysis, our focus will be on data extracted from Form 10-Q and 10-K, and the data between 2013-2023. The following is a list of filling files retrieved for this analysis.

* **Revenues**: This dataset provides revenue information from fiscal year 2013 to 2016.
* **RevenueFromContractWithCustomerExcludingAssessedTax**: This is additional revenue data from fiscal year 2017 to 2023.
* **Assets**: This data provides the total assets as of the balance sheet.
* **AssetsCurrent**: This data provides current assets as of the balance sheet.
* **Liabilities**: This data provides the sum of the carrying amounts as of the balance sheet date of all liabilities that are recognized.
* **LiabilitiesCurrent:** This data provides total obligations incurred as part of normal operations that are expected to be paid during the following twelve months or within one business cycle.
* **StockholdersEquity:** This data provides a total of all stockholders' equity.
* **NetIncomeLoss**: This data provided the portion of profit or loss for the period.

# Data Analysis and Visualizations

In this analysis, our focus will be on five key investment data points and ratios: annual revenues, net income, equity, current ratio, debt-to-equity ratio (D/E), and net profit margin. These metrics are important when analyzing stock investments as they provide crucial insights into a company’s financial health and performance*.*

## **Costco Wholesale Corp.’s Financial Data Points.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Revenues (Millions of US $)** | **Growth Rate** | **Net Income (Millions of US $)** | **Growth Rate** | **Equity (Millions of US $)** | **Growth Rate** |
| 2023 | $242,290 | 6.76% | $6,292 | 7.67% | $25,058 | 21.39% |
| 2022 | $226,954 | 15.83% | $5,844 | 16.72% | $20,642 | 17.52% |
| 2021 | $195,929 | 17.49% | $5,007 | 25.11% | $17,564 | -3.94% |
| 2020 | $166,761 | 9.21% | $4,002 | 9.37% | $18,284 | 19.95% |
| 2019 | $152,703 | 7.86% | $3,659 | 16.75% | $15,243 | 19.10% |
| 2018 | $141,576 | 9.73% | $3,134 | 16.98% | $12,799 | 18.75% |
| 2017 | $129,025 | 8.68% | $2,679 | 14.00% | $10,778 | -10.77% |
| 2016 | $118,719 | 2.17% | $2,350 | -1.14% | $12,079 | 13.77% |
| 2015 | $116,199 | 3.16% | $2,377 | 15.50% | $10,617 | -13.70% |
| 2014 | $112,640 | 7.12% | $2,058 | 0.93% | $12,303 | 13.57% |
| 2013 | $105,156 | - | $2,039 | - | $10,833 | - |

#### **Revenue**

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Aug 2020-2022

Avg growth rate of 16.66%

*Costco annual revenues ending September 3, 2023 was****$242,290B****, about* ***6.76% increase****year-over-year.*

#### **Net Income**

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Growth rate of 25.11%

*Costco annual net income ending September 3, 2023 was****$25,058B****, about* ***21.39% increase****year-over-year.*

#### **Shareholder’s Equity**

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*Costco annual equity ending September 3, 2023 was****$6,292B****, about* ***7.67% increase****year-over-year.*

Overall, Costco’s revenue, net income, and equity show a positive signal of a consistent upward trend over the analyzed period. While there were noticeable fluctuations in the growth rate in the past 10 years, there were exceptional performance years, particularly from 2020 to 2022 with an average revenue increase of 16.66% growth rate year over year. This significant increase could be attributed to the impact of the coronavirus pandemic that swept through the globe in early 2020 (CDC, 2023). This is due to Costco being considered an essential business and able to continue their growth in revenue and net sales during this period. Additionally, the significant revenue boost may also be attributed to the growth of its ecommerce business during the pandemic, which saw a 50% increase in sales in 2020 alone (Jelinek, 2020 Annual Report, 2020) and a 9% increase in revenue from membership fees in 2021 (Jelinek, 2021 Annual Report, 2021). This growth was also reflected in the net income increased during the same timeframe, especially with a growth rate surge of 25.11% from 2020 to 2021. In terms of equity, Costco experienced exceptional growth in 2023, with an increase of over 21% from 2022.

Despite fluctuations in individual years, the overall trajectory shows a positive trend, which suggests the company's sales performance stability and its ability to generate revenue and increase profits over the long term.

## **Costco Wholesale Corp.’s Financial Ratios.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Current Ratio** | **Growth Rate** | **D/E** | **Growth Rate** | **Net Profit Margin** | **Growth Rate** | **ROE** | **Growth Rate** |
| 2023 | 1.07 | 4.56% | 1.75 | -16.83% | 2.60 | 0.85% | 0.25 | -11.31% |
| 2022 | 1.02 | 1.96% | 2.11 | -10.10% | 2.57 | 0.76% | 0.28 | -0.69% |
| 2021 | 1.00 | -11.46% | 2.35 | 16.36% | 2.56 | 6.49% | 0.29 | 30.24% |
| 2020 | 1.13 | 11.99% | 2.02 | 3.04% | 2.40 | 0.15% | 0.22 | -8.82% |
| 2019 | 1.01 | -0.74% | 1.96 | -9.71% | 2.40 | 8.24% | 0.24 | -1.97% |
| 2018 | 1.02 | 2.87% | 2.17 | -7.60% | 2.21 | 6.61% | 0.24 | -1.49% |
| 2017 | 0.99 | 1.30% | 2.34 | 35.94% | 2.08 | 4.89% | 0.25 | 27.76% |
| 2016 | 0.98 | -3.69% | 1.72 | -17.43% | 1.98 | -3.23% | 0.19 | -13.10% |
| 2015 | 1.01 | -16.87% | 2.09 | 25.29% | 2.05 | 11.96% | 0.22 | 33.84% |
| 2014 | 1.22 | 2.14% | 1.67 | -6.29% | 1.83 | -5.77% | 0.17 | -11.13% |
| 2013 | 1.19 | - | 1.78 | - | 1.94 | - | 0.19 | - |

**Current Ratio** = Current Assets / Current Liabilities

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Costco Wholesale Corp.’s average current ratio between 2013-2023 was approximately 1.06. Overall, their current ratios exceeded 1 for most of the analyzed years, indicating a positive working capital and sufficient liquid assets to cover short-term obligations and invest in future activities and growth. However, there were noticeable downward trends and declines in the current ratio over the past 10 years, particularly in 2016 and 2017, when the current ratio dropped below 1, indicating negative working capital and raising concerns about their operational efficiency in managing current assets and current liabilities, as well as solvency risk during those periods. Nevertheless, the company was able to recover afterward. This showcasing a degree of resilience in the company during the occasional challenges. While there were some fluctuations, the current ratio remains relatively stable, indicating a healthy liquidity position over the years.

**Debt-to-Equity Ratio (D/E)** = Total liabilities / Total shareholders' Equity

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The analysis of Cosco Wholesale Corp.’s Debt-to-Equity shows fluctuations over the past 10 years indicating constant shifts in the company’s capital structure and financial risk. The average of D/E ratio over our observation period is 2.0. There were certain periods where I observed the D/E ratio peak, such as between 2017 to 2018, as well as during the pandemic years from 2020 to 2022, with an average of 2.26 and 2.16, respectively. The increase in debt in these periods suggests that a company has a higher level of debt relative to its equity, signaling increased financial risk and potential vulnerability to economic downturns.

There were also observed periods of low D/E ratios, such as the ratio of 1.75 for the report ending September 2023, which indicates a significant reduction in debt and a healthier financial position compared to previous years. These instances suggest a shift towards a more balanced capital structure, potentially reducing financial risk and enhancing the company's resilience to economic challenges.

**Return on Equity Ratio (ROE)** = Net Income / Shareholder EquityA graph with a line going up

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Costco’s Return on Equity shows fluctuations over the past 10 years, indicating varying levels of profitability relative to shareholders’ equity. There were periods of growth where Costco shows ability to efficiently turn shareholder equity into net income and effectively use equity capital to generate profits. These period of well performance are in 2017 with a ROE of 0.25 and in 2021 with a ROE of 0.29, with the growth rate around 27% and 30% compared to the previous year, respectively. However, there were also declines in ROE ratio in some periods, such as in 2020 with a ROE of 0.22 but the downward trends did not persist, and Costco’s ROE was able to bounce back in the following years. Overall, the ROE trend suggests some volatility in the company's profitability and efficiency in generating returns for its shareholders over the analyzed period.

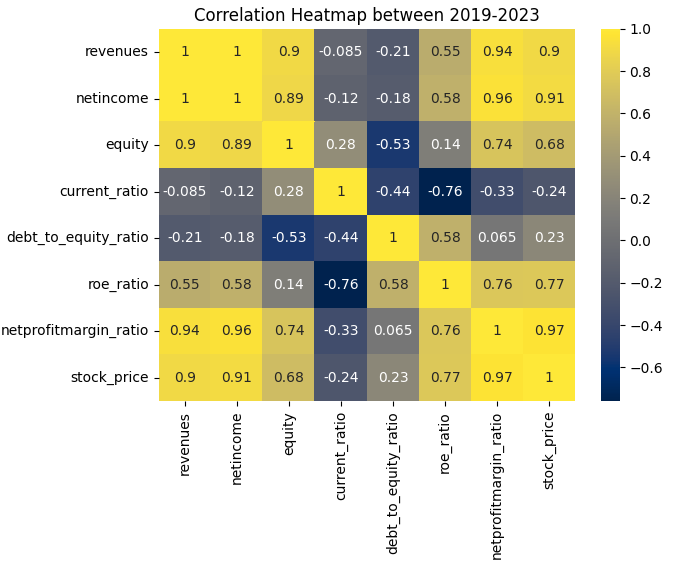
#### **Net Profit Margin** = Net Income / Total Revenue

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Costco employs a low-profit margin strategy and purchase most of their merchandise directly from manufacturers to offer members competitive prices across a wide range of categories. This strategy aims toward maximizing sales volume and achieving rapid inventory turnover. According to the Stern NYU’s Margin by Sector (US) (2024), Costco’s net profit margin in 2023 is at 2.60 which slightly lower than the 3.09 average of net profit margin for the general retail industry. Over the past 10 years, Costco’s net profit margin has shown an overall upward trend. There were periods of fluctuation over the certain period which reflect varying levels of profitability relative to its net sales. While there have been periods of growth, such as in 2021 with a net profit margin of 2.56%, and a growth rate of 6.49% compared to the previous year, there have also been declines in certain years, such as in 2016 with a net profit margin of 1.98%. Overall, the net profit margin trend suggests some variability in Costco's profitability and efficiency in generating profits from its net sales over the analyzed period.

## Stock Market Analysis



To examine the potential influence of financial information on stock prices, I calculated the correlation between Costco financial ratios over the past ten and then five years and the corresponding stock market prices on filing dates. From the correlation heatmap, stock prices consistently highly correlated with revenue, net income, and the net profit margin ratio. This suggests that the stock market may have closely monitored these financial indicators and may react positively or negatively to change in these financial data points. However, please note that this analysis was conducted as a preliminary experiment, and there can be various other factors that can influence stock prices. Further research and analysis are required to provide additional insights and support this conclusion.

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# From our earlier analysis, Costco demonstrated strong performance in 2021, with its revenues increased by 17.49% and net income increase by 25.11% compared to the previous years. Additionally, the net profit margin also rose from 2.40 to 2.56 or an increase of 6.49% from the previous year. Despite the company’s strong performance year, the stock market did not immediately respond positively to the report. On the report date ending August 2021, stock price was $455.93, and declined about 2% in the first month following the report date. However, stock prices began to rebound 30 days after the report date and continued to climb steadily over the subsequent 60, 90, and 120 days.

# Upon my investigation, the world economy experienced significant shifts and challenges in 2021. There were economic uncertainty causing from the lingering effects of the Coronavirus pandemic still linger, unemployment rate just begun to recover, and the interest rate hikes. Additionally, there were inflation pressures from high consumer demand and global supply chain constraints (UnitedNation, 2021). Despite these challenges, Costco’s stock price saw a remarkable increase of about 27% from 2020 to 2021. The slower response in stock market may reflect investors' cautious approach as they closely monitor the uncertain economic dynamics before making investment decisions.

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In 2022, Costco's revenue closed at around $226 billion, a 15.83% increase from the previous year. Despite this strong financial performance, Costco's stock prices experienced a 10% decline in the fist 30 days following the report date in August 2022. However, over the subsequent 30 and 60 days, stock prices gradually began to pick up and show an upward trend. Unfortunately, the upward trend in stock prices did not last. They experienced declined again by about 14% after the 90-day mark from the report date. From my research, I found that this decline in stock prices was not unique to Costco but was observed across the market in 2022. The Economic Outlook for 2022, as reported by the National Retail Federation (2022), suggested a pivot point with challenges related to market volatility caused by COVID-19, the war in Ukraine, and concerns about the economy heading toward a recession. Additionally, Morning Star (2023), reported that the stock market performed poorly in 2022, with the fourth quarter showing some improvement from the beginning of the year. The surge in inflation to 40-year highs was believed to be a key influence on the decline in market performance and investment in 2022. Overall, the stock market did not respond positively in 2022 following the report date in August, with these trends believed to be influenced by the broader global economic downturn rather than Costco's individual performance.

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In 2023, Costco’s revenue reach $242B, a 6.76% increase from the previous year. Its shareholder equity also significantly increased by 21.39% this year. As shown on the graph above, the stock market responded positively to the latest annual report, particularly evident in the 60-day period following the report date. which demonstrated an increase of 9.97% from stock price at the report date of $544.73 to $599.08. Stock prices show a notable uptick, climbing by 9.97% from the initial price of $544.73 to $599.08. This positive momentum continued over the subsequent 90 days, with stock prices reaching a record high of $650.65, which is an additional 8.6% increase.

According to my research, besides having a strong performance year, Costco also expanded its operations by adding 23 net new warehouses globally in 2023 (Jelinek, 2023 Annual Report, 2023). Additionally, the stock market conditions in 2023 showed improvement compared to 2022. This improvement was attributed to server factors, including a solid economy, increased in corporate earnings, the cessation of the Federal Reserve’s interest rate hike, a slowdown in inflation, and a 25% rally in the stock market. Furthermore, the growth of technology stocks and the emergence of AI technologies contributed to the market's positive trajectory (Lauricella, 2023).

## **Company’s ethical analysis**

Costco demonstrates a profound commitment to address social and environmental issues, as evident in its mission statement and code of ethics, which are, “Obey the law, Take care of our members, Take care of our employees, and Respect our suppliers” (Wholesale, What is Costco’s Mission Statement and Code of Ethics?, n.d.). Moreover, the company’s sustainability commitment focuses its effort on “ Doing the right thing for our community and world” (Wholesale, Our Sustainability Commitment, 2023). Costco also actively engages in initiatives aligned with the Global Climate Action plan and other sustainable development goals. For instance, it recent commitment responded to an activist campaign by pledging to reduce emission across its full value chain by 2030 and to achieve net-zero emissions by 2050. These proactive efforts reflect Costco's ongoing commitment to social responsibility and environmental stewardship.

# Conclusion

In this paper, we examined Costco’s key financial data points, financial ratios, stock prices movement, along with the company’s ethical conduct to identify Costco’s financial position and long-term prospects that can help us optimize our investment portfolios effectively.

As Costco operates under retail sector which is the most diverse industries and a highly competitive market that can be impact by changed in economy, consumer spending pattern, inflation, and foreign exchange rate, Costco’s financial ratio shows fluctuations over the past 10 years. There were periods where their financial data points and ratios raised some concerns regarding their financial situation, profitability, and solvency, they were able to bounce back which presented their financial resilience in overcome economic challenge. For example, there were observed years where Costco’s D/E significantly increase, such as in 2017 and between 2020-2022. However, upon my research, I found that the increase in D/E ratio in 2017 coincided with significant investment in expanding Costco’s global footprint that included the investment of 26 net new warehouses globally (Costco, 2017). Costco also able to maintain their financial growth during the world economic crisis such as during the pandemic years between 2020-2022 as proof from the year over year growth in their revenues, net income, and equity. Similarly, the increase in D/E ratio during pandemic may be attributed to the increase in uncertainty in consumer purchasing patterns and the need to increase debt to maintain adequate inventory levels of essential goods.

Based on the analysis of the impact of company financial performance on the stock market, it is evident that stock prices are influenced by a myriad of factors beyond just financial performance. Despite Costco's strong financial performance in certain years, the immediate response of stock prices following the report dates was not always positive. This suggests that, in addition to company’s performance, global and local economic conditions play a significant role in investor sentiment. For instance, in 2022, despite Costco strong fiscal year performance, stock prices declined amid economic uncertainty. This emphasizes the influence of broader economic factors on investor behavior and market dynamics.

In terms of Costco’s social responsibility and ethical conduct, the company has demonstrated a commitment to address social and environmental concerns, as evidenced by its mission statement and their code of ethics. In addition, Costco has been proactive in reducing its environmental footprint and supporting communities, while also ensuring fair treatment for its employees. Some examples of these efforts were during the Coronavirus Pandemic, Costco took precautious steps and ensure to provide any necessary means to help maintain their employees’ health, news around the company provide employees with a higher wage compared to competitors (Baker, 2022). In addition, Costco has supported global initiatives focused on conservation and sustainable development. (Wholesale, Our Sustainability Commitment, 2023)

In summary, despite fluctuations observed in Costco’s financial performance over the analyzed period, the company has consistently demonstrated resilience and the ability to maintain financial profitability, efficiency, stability, and solvency. Their stock prices have also shown upward trends, even during crisis years, further indicating the company's resilience and potential for growth. Overall, Costco's financial health appears positive, and in my opinion, it has significant potential for both short-term and long-term investment opportunities.

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