# Group Assignment Coversheet

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**Part A. Students to Complete**

**Course Number: ACCT3610**

**Course Name: Business Analysis & Valuation**

**Lecturer Name: Jeff Coulton**

**Tutor Name: Jeff Coulton**

**Lecture/Seminar/Tutorial**

**Day: Thursday** **Time: 11am-2pm** **Number: H11A** **Location: Quadrangle 1043**

**Group Number/Name: 3610 Team 2**

**Date Due:** 14 / 04 / 2023 **Date Submitted:** _ _ / _ _ / _ _ _ _ **Word Count:**

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**Group Assignment Participants**

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| 10. | | |

**Part B. Marker to Complete**

| Mark/Grade: | Comments: |
|---|---|
| | |

# Woolworths Group Limited (ASX: WOW)

**Recommendation**: BUY

**Current Market Price**: A$39.03

**Estimated Price: A$40.99(+5.02%)**

## Table of Contents

## Business Strategy

Woolworths Group (ASX: WOW) is classified as Consumer Staples Distribution & Retail under the Global Industry Classification Standard (GICS) Industry Group. The firm operates in various subsectors of retail industry such as Australian food, Australian Business-to-Business, New Zealand food, and Australian Department (BIG W) sectors. To aid the understanding of Woolworths Group's position within the industry, Porter's five forces analysis is incorporated:

### Porter's Five Forces

***Competition in the Industry [HIGH]***

The industry has few major competitors partaking in the market share; specifically, Woolworths Group faces competition from its major competitors, Coles and Aldi. Additionally, the product differentiation amongst these firms is low as they mainly focus on supplying daily consumables, thus leading customers to perceive little difference in the interchangeable products with similar prices. This leads to lower customer switching costs as consumers are not any better off choosing a particular provider. However, Woolworths Group has been differentiating themselves by investing heavily in its loyalty program, the Everyday Rewards Program. According to the Woolworths Group Annual Report 2022, they have successfully attained 13.7 million loyalty program users by providing personalized reward offers, continued enhancement of the loyalty platform within the rewards application, and Everyday Pay system which allows seamless payments. Likewise, however, Coles have launched its own rewards program called Flybuys in 1994 with Shell and National Australia Bank, while Aldi has yet to launch one.

***Threat of New Entrants [LOW]***

According to Woolworths Group, Woolworths opened its first branch as Woolworths Stupendous Bargain Basement in Sydney's Imperial Arcade on Friday, 5 December 1924. As one of the pioneers in the industry in Australia, Woolworths is able to gain immense first mover advantage. Furthermore, Woolworths Group has been establishing its prominence by operating on a large scale, with hundreds of stores across Australia. Its economy of scale allows it to benefit from stabilized purchasing, distribution, and marketing; thus, Woolworths Group can offer competitive prices to customers and maintain high profit margins. Moreover, through its economy of scale, Woolworths Group can ensure full control over the distribution of its products, allowing effective management of inventory levels, waste system, and supply chain control. By controlling distribution access, it can also maintain high levels of product quality and consistency across all its stores.

***Threat of Substitute Products [MODERATE]***

Products offered are readily, and widely, available across the industry. Customers have the liberty to decide where to purchase their required products, whether it be other retail stores such as Aldi or Coles, or online retailers such as Amazon or iHerb. To mitigate such risks, Woolworths Group offers a vast range of products, invests in online platforms and delivery services, and enhances customer experience by introducing different loyalty program perks.

***Bargaining Power of Buyers [HIGH]***

The low switching costs and differentiated products empowers the bargaining power of buyers. Additionally, as Woolworths Group's entities buy inventories at large scale relative to the suppliers, the consumers can boycott and force Woolworths Group to choose between lowering the price or wasting the products with expiry dates.

***Bargaining Power of Suppliers [MODERATE]***

Woolworths Group has solidified its bond with vast numbers of suppliers, and thus has the option of choosing its suppliers. Nevertheless, as shown in Figure 1, a few suppliers and providers from various sectors – food and beverage, logistics and transportation, IT and technology, and renewable energy - are irreplaceable.

| **Sector** | Brand | Reason |
|---|---|---|
| **Food & Beverage** | Nestle, Coca-Cola, Unilever | Influential manufacturers with an established customer base - consumers demand and seek these brands' products. |
| **Logistic & Transportation** | <u>International</u><br>Maersk, CMA CGM<br><u>Domestic</u><br>Linfox, Toll Group | These service providers are responsible for moving products from suppliers to Woolworths Group's retail stores and other sales channels, and as there are limited substitutes for these services, Woolworths must rely on these reputable |

| | | |
|---|---|---|
| | | providers to ensure that products are delivered on time and in good condition. |
| **IT & Technology** | Microsoft, IBM | IT and technology providers are critical to Woolworths Group's online operations and customer experience as, without these services, the firm would struggle to maintain its digital platforms and supply chain management systems. These credible providers guarantee Woolworths Group's ability to compete in the market. |
| **Renewable Energy Providers** | AGL Energy, Origin Energy | One of Woolworths Group's objectives is to utilize renewable energy, and thus these providers are vital to its operations. They provide electricity and other forms of energy that Woolworths Group needs to operate its retail stores and other facilities. As there are limited substitutes for these services, the firm relies on these providers to ensure that it has a reliable and affordable source of energy. |

*Figure 1*

## Profits from Company's Strategy - Sustainability Analysis

Woolworths Group has attained its pioneering position in the market by taking innovative initiatives and focusing on the following 3 pillars of strategies:

***People***

The first pillar, People, represents Woolworths Group's commitment to creating a positive and inclusive work environment for its employees, as well as its commitment to supporting the communities in which it operates. Few initiatives to accelerate such commitment have been set in place: customer satisfaction incentives (2020), culturally diverse and inclusive working environment (2021), Woolies program for special education school (2022). Furthermore, Woolworths Group has implemented programs such as its "Fresh Food People" employee training program, which focuses on providing employees with the skills and knowledge they need to provide high-quality customer service, and its "Fresh Food Rescue" program, which donates unsold food to local charities and food banks. These initiatives envision the firm’s objective to focus on the people in hopes of enhancing its business.

### *Planet*

The second pillar, Planet, represents Woolworths Group's commitment to environmental sustainability and reducing its impact on the planet. Woolworths Group is constantly working towards reducing emissions from its operations through green electricity and electric vehicles. According to Woolworths Group’s 2022 Annual Report, a program has been established to “allow Woolworths Group to understand [its] suppliers’ capability on emissions reductions, identify leaders, and track improvements over time”. The firm has also taken holistic approach to its decision making by reducing food wastage by donating unwanted food with OzHarvest and minimizing environmental risks by partnering up with firms to “promote regenerative agricultural practices and improve [its] responsible stewardship of natural resources”. These commitments are proven to be effective as the firm published that it accomplished 100% green electricity in South Australia, 31% reduction in scope 1 and 2 emissions from 2015, and 50 million meals donated to OzHarvest since 2014.

### *Product*

The third pillar, Product, represents Woolworths Group's commitment to providing customers with high-quality, responsibly sourced products. The company is transitioning into eCommerce platforms whilst improving the quality of its physical stores. The aim of these is to both enhance customer connectivity and differentiate its products to achieve cost leadership. The following represents the methods taken by Woolworths Group to attain these goals:

| Key Goal | Action Taken (Strategy) | Outcome |
|---|---|---|
| **eCommerce** | 1. Enhancement of its digital tools, such as personalized shopping list and recipe functionalities, to increase customer engagement. | 1. Resulted in 29% increase in recipe users and 37% increase in shopping list users, both in F22. These became attributes to |

| | | |
|---|---|---|
| | According to Woolworths Group, “customers that use the shopping list add two extra items to their baskets on average compared to non-list users”.<br><br>2. 30% of Voice of Customer Net Promoter Score (VOC) is weighted to eCommerce.<br><br>3. *Delivery Unlimited* was implemented as a subscription service that “gives customers access to free delivery on any Next and Same Day Delivery windows, or reduced fees for quicker delivery options (Delivery Now), free shipping at Everyday Market and 2x Everyday Rewards points on all online orders”. | Woolworths group’s increasing scale in digital presence:<br>• Ranked as 3rd retailer by weekly website traffic rankings (June 2022)<br>• Achieved 53% growth in average weekly users compared to F21<br>• 2 of the top 5 apps by retailers (weekly active users in June 2022)<br><br>2. VOC allows the company to deliver “new and improved ways customers can shop with [Woolworths Group]”. The tailored experience attracts consumers to choose Woolworths Group over its competitors.<br><br>3. Delivery Unlimited allows for both attaining loyalty and ensuring freshness of the products delivered. Consumers’ likelihood of subscribing is evident as the subscriptions doubled compared to F21. |
| **Physical Store** | 1. Provide fresher, healthier food and eco-friendly solutions to the consumer-base:<br><u>Fresher & Heathier Food</u><br>• Reformulated its own brand products to make healthier choices more accessible<br>• Launched seafood sourcing policy to embed human rights, animal welfare and sustainable seafood sourcing requirements<br><br><u>Eco-friendly Solution</u><br>• Enhanced data capabilities and rebuilt product level master data for its own brand packaging by engaging external expert | <u>Fresher & Healthier Food</u><br>• 76% of eligible Woolworths brand products met the Australian Government’s Healthy Food Partnership targets for salt, sugar, and saturated fat<br>    o Aims to achieve 100% by 2025<br>• All the remaining Woolworths brand seafood products have been transitioned to ecologically responsible sources<br>• Partnership with government, industry, and community stakeholders to aid sustainable salmon industry<br>• These strategies and solutions will naturally attract more consumers who are concerned about their health |

| | |
|---|---|
| | Eco-friendly Solution<br>• Redesigned 15 packaging projects, which convert non-recyclable materials to recyclable and reduce virgin plastic in packaging by 4,262 tons annually. The eco-friendliness of the Group will attract more customers who put great importance to the planet |

*Table 2: Contents in the table are provided by the Woolworths Group Annual Report 2022*

## Sustainability of Profits

The sustainability of profits generated by Woolworths Group's strategy will be stable at least until the near future (5 to 7 years). The Group has gained significant advantages with strategies, forecasted up until 2025. Naturally, consumers will be more inclined to be loyal to a company with a firm set of strategies that branches into the future.

However, the company's return on equity (ROE) is difficult to predict whether it will revert to its cost of capital or not. ROE is a measure of the company's profitability relative to the amount of equity invested by the shareholders and is influenced by a range of factors such as operating efficiency, revenue growth, and capital structure. Therefore, the outcome of the prediction depends on the following:

1. Woolworths Group delivers strong revenue growth and maintain its focus on operational efficiency and cost savings

- Possibility of ROE remaining above its cost of capital over long-term

2. Woolworths Group delivers decline in revenue growth or faces increased competition or cost pressures

- Possibility of ROE reverting to its cost of capital

As shown in its progressive achievements, Woolworths Group established strategies that seem to be capturing the demands of the consumers with its focus on the three pillars – People, Planet, and Product. The strategies are geared towards the sustainability of the plans and adaptability of rapidly changing customer demands. Nonetheless, as its key rivals, such as Coles, Aldi and

Metcash, are implementing similar strategies, Woolworths Group needs to remain competitive by developing and focusing on the enhancement of its strategy.

## Accounting Analysis

To represent an accurate analysis on Woolworths Group's underlying economics, several assessments of its 2022 annual report have been done:

### Accounting Assessment

The annual report of Woolworths Group for the year ended 26 June 2022 shows that the firm's accounting reflects the underlying business reality to a great extent. The firm's financial statements are prepared in accordance with the Australian Accounting Standards (AASB), the Corporations Act 2001, and the Australian Securities Exchange (ASX) Listing Rules. The Group uses a range of accounting policies and estimates, which are consistent with the industry standards and practices.

The financial statements show that Woolworths Group's revenue increased by 9.2% to $60.849 billion in 2022, compared to $55.733 billion in 2021. The increase in revenue was driven by strong sales growth across all the company's business segments, particularly in its Supermarkets businesses. The group's earnings before interest and tax (EBIT) decreased by 2.7% to $2.69 billion in 2022, compared to $2.764 billion in 2021.

Despite the realistic view of the company's underlying business performance, there are some possible accounting distortions related to the firm's incentive system. Woolworths Group's incentive system comprises both short-term and long-term incentives, which are designed to motivate and reward employees for achieving key performance indicators (KPIs). The short-term incentive program is based on financial performance metrics such as sales and EBIT.

The short-term incentive program's financial performance metrics, particularly sales and EBIT, may incentivize executives and managers to make short-term decisions that may not be in the best long-term interests of the company. For example, executives and managers may be motivated to undermine the company's long-term growth prospects by cutting costs, delay necessary capital expenditures to boost short-term profitability, reduce investment in the enhancement of the eCommerce platform, or overstate the sales incurred.

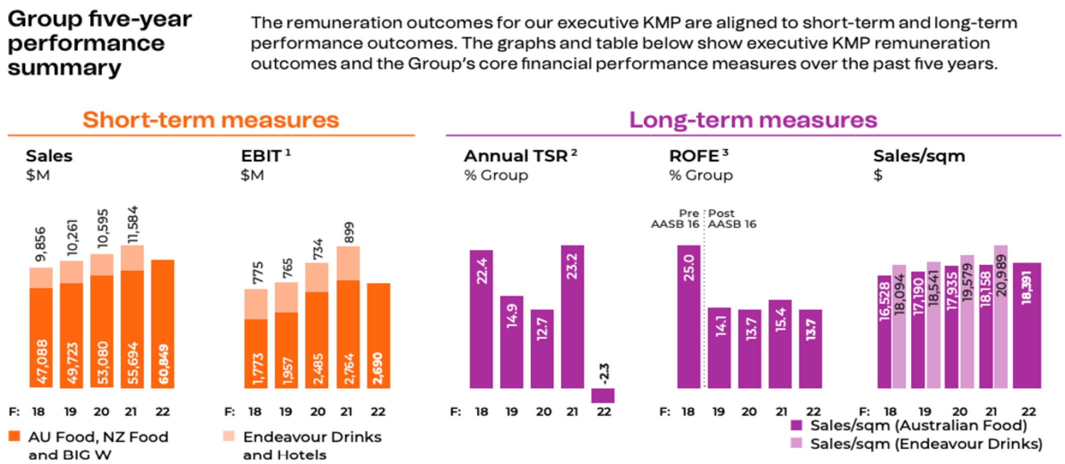



*Figure 3: Group five-year performance summary of renumeration outcomes, Woolworths Group Annual Report 2022*

The distortions created by the short-term incentive program could have a negative impact on the sustainability of profits over the long term. If executives and managers prioritize short-term financial performance over long-term growth prospects, it could result in a decline in the company's competitive position in the market, reduced innovation, and lower customer satisfaction. Such factors could result in declining revenue and profitability in the future.

However, Woolworths Group does an immaculate job with presenting transparency with the renumerations handed out to the executives; thus, Woolworths Group seems to elucidate any possible distortion and stay clear of fraudulent activities.

## Forecast Impact

Forecasting is an essential aspect of financial analysis as it helps businesses to make informed decisions about their future financial plans. When making forecasts for the Woolworths Group, it is important to consider the potential impact of the company's short-term incentive program.

The short-term incentive program is based on financial performance metrics such as EBIT and sales. Executives and managers may be incentivized to make decisions that prioritize short-term financial goals over long-term sustainability. This may result in short-term profits at the expense of the company's long-term financial stability.

To mitigate this risk, it is essential to incorporate a holistic approach when forecasting the Woolworths Group's future financial performance. This includes considering not just short-term financial goals but also long-term strategic objectives and the overall sustainability of profits.

Furthermore, it is essential to identify and analyse additional factors that could affect the company's performance, such as changes in the market conditions, competition, regulatory changes, and consumer preferences. By incorporating these factors into the forecasting process, businesses can make more informed decisions about their future financial plans, considering both short-term and long-term goals.

# Financial Analysis

## Time Series Analysis

### *Dupont Analysis*

| | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| *Traditional DuPont* | | | | | |
| **Return on Equity** | | | | | |
| (Net Income / Average Shareholders Equity) | 15.49% | 13.99% | 9.61% | 29.82% | 39.45% |
| Profit margin (Net income / Sales) | 2.82% | 2.49% | 1.77% | 2.88% | 2.54% |
| Asset turnover (Sales / Average Total Assets) | 2.39 | 2.50 | 1.70 | 1.43 | 1.68 |
| Leverage (Average Total Assets/Average Shareholders Equity) | 2.30 | 2.25 | 3.20 | 7.21 | 9.25 |

From 2018 to 2020, Woolworths Group’s return on equity (ROE) decreased due to the continuous decline in profit margin. Australia's lock-down policy in response to covid-19, which increases costs, is the primary cause. This has directly led to a significant decline in offline retail profits. Due to the improvement of the epidemic and the cost reduction caused by Australia's economic recovery, the profit margin returned to pre-epidemic levels in 2021 and increased significantly. The most significant factor influencing ROE is, however, the dramatic increase in leverage. The Group has applied AASB 16 Leases (AASB 16) using a modified retrospective approach, according to the 2020 Annual Report. Under the new standard, operating leases are recognised as both assets and liabilities, requiring Woolworths Group to disclose lease obligations as both assets and liabilities. This has resulted in increased leverage, which has substantially increased ROE. Obviously, this accounting modification also resulted in a decline in asset turnover, which rebounded in 2022.

### *Liquidity Analysis*

| Liquidity Analysis (Cash Flow Analysis) | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| Current ratio | 0.78 | 0.71 | 0.60 | 0.68 | 0.57 |
| Quick ratio | 0.19 | 0.17 | 0.19 | 0.06 | 0.18 |
| Cash ratio | 0.14 | 0.12 | 0.15 | 0.04 | 0.10 |
| Operating cash flow ratio | 0.33 | 0.33 | 0.41 | 0.25 | 0.20 |

With the exception of a substantial decline in 2021, the first three liquidity ratios have remained relatively stable over the past few years. The change in 2021 was due to a significant increase in Miscellaneous Current Liabilities, but by 2022, Woolworths Group had repaid these debts and restored the account to its original level. This is in part a reflection of the company's capacity to pay down current liabilities and manage certain liquidity crises. However, the cash ratio remained below 0.2, indicating that the ability of Woolworths Group to repay short-term obligations with cash was extremely limited. Additionally, the operating cash flow ratio is comparatively modest. Similar to the preceding three ratios, fluctuations are caused by the increase in net operating cash flow in 2020 and the decrease in net operating cash flow in 2021. Overall, Woolworths Group struggles to fulfil its short-term obligations.

### *Solvency Analysis*

| Solvency Analysis | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| Financial leverage | 0.12 | 0.16 | 0.65 | 0.89 | 0.72 |
| Debt to equity | 0.26 | 0.30 | 2.07 | 8.56 | 2.75 |
| Debt to total capital | 0.21 | 0.23 | 0.67 | 0.90 | 0.73 |
| Assets to equity | 2.22 | 2.28 | 4.26 | 22.56 | 5.45 |

Solvency analysis is the evaluation of a company's ability to fulfil its long-term financial obligations. This analysis is significant because it can shed light on Woolworths Group's financial health and long-term viability. The level of financial leverage remains minimal in 2018 and 2019, increases in 2020, and then stabilizes thereafter. This is likely due to an increase in Woolworths Group's liabilities in 2020 as a consequence of the previously mentioned change in accounting standards. As a result of Woolworths Group's increasing reliance on debt financing, the company will be perceived as a higher risk as its leverage continues to rise. If cash flow decreases, servicing debt could become problematic. The similar meaning and trend of Debt to equity and Debt to total capital may indicate that the company has a low level of solvency.

### *Efficiency Analysis*

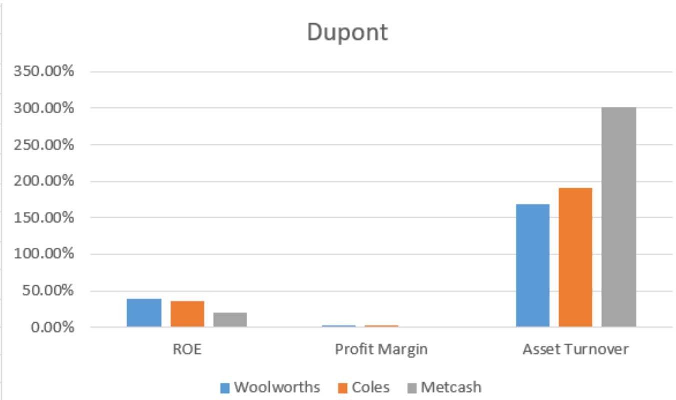
| Efficiency Analysis | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| Inventory turnover | 9.53 | 9.99 | 8.66 | 10.42 | 12.73 |
| Trade receivables turnover | 137.05 | 134.80 | 104.28 | 108.43 | 91.09 |
| Total asset turnover | 2.39 | 2.50 | 1.70 | 1.43 | 1.68 |
| Operating working capital turnover | -18.78 | -17.32 | -10.33 | -10.64 | -32.49 |
| Net operating asset turnover | 4.68 | 4.81 | 2.78 | 2.70 | 3.25 |

Asset turnover ratios evaluate the group's working capital and long-term asset management effectiveness. Inventory turnover measures the frequency with which a company sells and replaces its inventory over a given period. This indicates that Woolworths Group is able to sell inventory swiftly and effectively, which could be an indication of strong sales and effective inventory management. This may be a positive indicator for investors and other stakeholders. The consistent decline in Trade receivables turnover indicates that Woolworths' ability to recover the outstanding receivables is diminishing, which may indicate a decline in customer quality or credit policy, resulting in an increase in poor debts and financial risks. It could also be an indication of increased competitive pressure from rival firms such as Coles. Woolworths group might have to modify its credit and collection policies. In addition, Operating working capital turnover is negative throughout the entire year, indicating that it may not have sufficient operating liquidity to support its sales and may experience cash flow issues, such as the delayed recovery of accounts receivable mentioned previously. This could make it difficult for the company to pay its short-term obligations, affecting the business as a whole. In conclusion, the group has yet to enhance its working capital management.

## Cross-Sectional Analysis

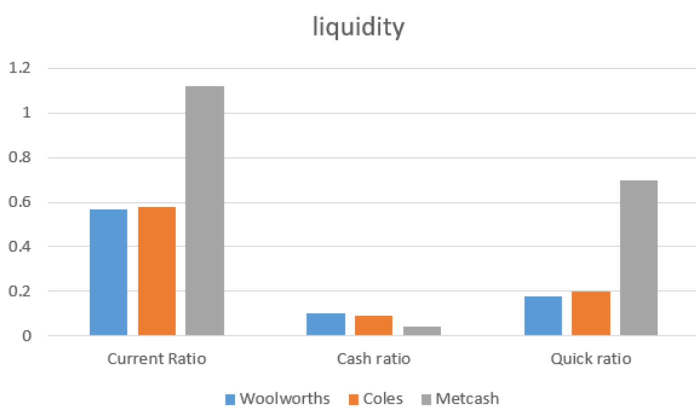
Our cross-sectional analysis is to compare figures of Woolworths group, Coles and Metcash.

### *DuPont Analysis*



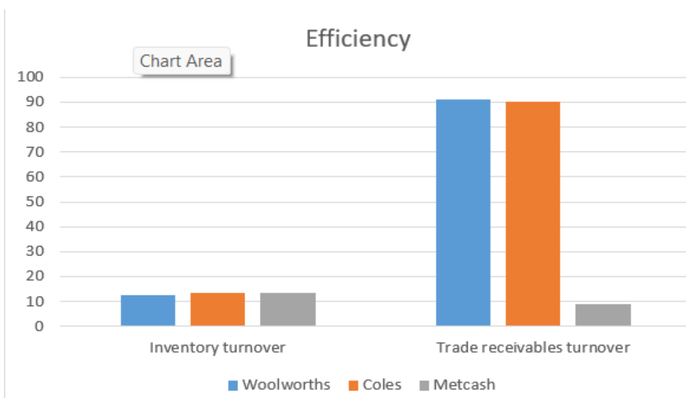

The cross-sectional Dupont analysis reveals that Woolworths Group and Coles have comparable ROE and profit margin figures. It has a lower Asset turnover than Coles and Metcash, indicating that it cannot operate with less capital than its competitors. As a result, the company may be less nimble and responsive to market shifts, as more of its assets are bound down in operations.

***Liquidity Analysis***




Woolworths Group and its former competitor Coles have comparable current ratios, cash ratios, and fast ratios. This demonstrates that the company is functioning flawlessly within its industry. Metcash's extremely high current ratio and quick ratio are likely attributable to its diminutive size, which results in reduced current liabilities.

***Efficiency Analysis***




The inventory turnover rates of the three companies are comparable, indicating that Woolworths Group has no advantage in industry inventory consumption speed despite its rising ratio. As for Trade receivable turnover, it is marginally greater than that of Coles and significantly greater than that of Metcash. Even though the ratio of Woolworths Group receivable turnover is continuously decreasing, the company still experiences competitive advantages. In other terms, Woolworths group can relatively quickly collect accounts receivable.

# Forecasting Financial Ratios

***Background***

This part aims to forecast Woolworths Group's future financial ratios by analyzing its sales growth rate, operating margin, net working capital turnover, long-term asset turnover, and debt to capital ratio.

## Sales Growth Rate

The growing popularity of e-commerce and cross-border e-commerce is intensifying competition in the Australian retail industry. Woolworths Group, which is a major player in this industry, is facing the challenge of keeping up with the technological innovations of its rivals as well as the market impact of e-commerce giants like Amazon and Alibaba. Based on the latest research report on the retail industry from the Australian Bureau of Statistics (ABS) in 2023, it is anticipated that the sales growth rate of the Australian retail industry will remain stable at approximately 2%. Given that Woolworths Group's average sales growth rate over the past five years has also been around 2%, it is predicted that the company's sales growth rate will continue to hover around 2% in the future.

## Operating Margin

Woolworths Group has maintained an operating margin between 2.5% and 3.5% for the past five years, according to its recent Financial Statements (Woolworths Limited, 2020). The company has achieved this by improving its supply chain and logistics, reducing costs, increasing efficiency, and boosting online sales. However, the Australian retail industry is already at a mature stage, and competition will continue to intensify due to e-commerce and other competitors. Therefore, we expect Woolworths Group’s operating profit margin to remain at around 2.5% in the future.

## Working Capital Turnover Ratio

Woolworths Group’s net working capital turnover has experienced a significant trend in recent years, with a range from -22 to -9. As noted in its financial statements for 2020, the group applied AASB 16 Leases (AASB 16) using the modified retrospective approach, which explains the considerable change in its net working capital turnover over the last five years (Woolworths Group, 2020). Thus, considering the previously forecasted sales growth and operating margins, we predict that the net working capital turnover will continue to move from -15 to -12 and eventually remain at -12.

## Long-Term Asset Turnover

During the last few years of the epidemic, Woolworths Group’s current assets and current liabilities were higher than before due to the significant impact on the retail sector under the epidemic, with changes to previous sales patterns and an increasing proportion of online sales, which will affect its supply chain (Woolworths Group, 2021). Therefore, in the post-epidemic era, we predict that its long-term asset turnover ratio will return to its pre-epidemic level. We expect the long-term asset turnover ratio to gradually rise to 3 and eventually remain at around 3.5.

### Financial Leverage (Opening Debt to Capital Ratio)

Woolworths Group has applied AASB 16 Leases (AASB 16) using the modified retrospective approach, resulting in significantly higher long-term debt in the past three years than the previous level. As shown in previous data, the opening debt to capital ratio increased from 65% to 88% and then decreased to 72%. This high figure is specific to the retail industry, and the average debt to capital ratio of the Australian retail industry was 81% in 2020 (IBISWorld, 2021). However, given Woolworths Group's position as an industry leader with excellent supply chain and capital management capabilities, as well as its cost leadership strategy and expected continued sales growth, we predict the debt to capital ratio will fall to 70% by 2024 and to 65% in the future.

***Summary***

Woolworths Group's sales growth rate is predicted to remain around 2% due to the Australian Bureau of Statistics 2023 retail industry research report and Woolworths Group's average sales growth rate over the past five years (Australian Bureau of Statistics, 2021). Despite increasing competition in the Australian retail industry, Woolworths Group's operating profit margin is predicted to remain at around 2.5%, given its continuous efforts to optimize its supply chain and logistics and reduce costs and increase efficiency (Woolworths Group, 2021). Furthermore, Woolworths Group's net working capital turnover is predicted to remain at -12, while its long-term asset turnover ratio is predicted to gradually rise to 3 and eventually remain around 3.5 (Woolworths Group 2021). Finally, Woolworths Group's debt to capital ratio is predicted to decrease to 70% by 2024 and eventually fall to 65%, given its strong position in the industry and expected sales growth (IBISWorld, 2021).

## Valuation

### Discounted Free Cash Flow to Equity Model

In this report, our group used Discounted Free Cash Flow to Equity Model to estimate Woolworths Group's share price. The key elements for this assumption are as follow:

a) Cost of Equity

The cost of equity (i.e., re) is an important factor (i.e., discount rate) to get the present value of future cash flow. According to the CAPM model, Woolworths Group's cost of equity of 4.58% is based on Australian 10-year bond rate of 3.18%, its market risk of 6.45% and the expected volatility of its shares relative to the market.

| **Input** | **Value** | **Rationale** |
|---|---|---|
| Risk Free Rate (rf) | 3.18% | Based on Australian 10-year bond yield (Australia 10 years Bond - Historical Data 2023). |
| Beta ($\beta$) | 0.43 | Based on InfrontAnalytics (Levered/Unlevered Beta of WOOLWORTHS GROUP LIMITED (WOW \| AUS), n.d.). |
| Equity Risk Premium (rm) | 6.45% | Value Practice Survey from CA ANZ. |
| Cost of Equity (re) | 4.58% | Based on CAPM Model. |

b) Terminal Growth Rate

Our terminal growth rate is 2.1% which is based on our forecasted terminal year sales growth rate. The majority of Woolworths Group's revenue comes from its supermarket and as it is the major player in Australian supermarket and grocery industry, we forecast that its sales growth rate will exceed the revenue growth rate of 1.8% forecasted by IBIS world (Gannon, 2023).

| PV of Free Cash Flow | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Forecast | | | | | Terminal years |
| *Discounted Cash Flow (DCF) Method* | | 1 | 2 | 3 | 4 | 5 | 6 |
| | | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F |
| Assuming cost of equity (re)= | 4.58% | | | | | | |
| Free cash flow to equity | | 2501.10 | 1571.45 | 1227.76 | 1149.30 | 1663.80 | 1343.48 |
| * discount factor (for common equity) | | 0.96 | 0.91 | 0.87 | 0.84 | 0.80 | |
| = Present Value of Free Cash Flow to Equity | | 2391.49 | 1436.74 | 1073.32 | 960.69 | 1329.81 | |

| Estimated Value Per Share | |
|---|---|
| PV of FCF to Equity (years 1-5) | 7192.05 |
| + PV of FCF to equity beyond year 5 | 43241.38 |
| = Value of the Equity | 50433.42 |
| Number of shares outstanding ('000) | 1230.30 |
| Estimated value per share | 40.99 |

Based on the previous assumptions of a cost of equity of 4.58%, a terminal growth rate of 2.1% and free cash flow to equity from FY2023 to FY2028, Woolworths Group's share price is estimated to be $40.99.

### Intrinsic Valuation V.S. Market Valuation

Our estimation of Woolworth Group share price is $40.99, and its current market share price is $39.03. This implies that Woolworths Group's current share price is slightly underpriced, but the margin is small. Some reasons are as follows:

1. Nature of the industry and competition: The company is situated in a region where the growth of industries has reached its maximum capacity, and profits are divided among a few significant players. The limited profitability and significant obstacles to entering the market because of the economies of scale and control of distribution access will prevent new competitors from emerging, resulting in the current players making slow progress, causing the industry's growth rate to remain steady.
2. Supply chain issues: The supply disruptions arose during the pandemic, because of shortage of staff, extreme weather events, such as floods, and international tensions. Despite the fact that the government has declared the era of the epidemic to be over and that it has made the development of supply chain one of its main development strategies, the company still occasionally suffers from shortages of items.

### Sensitivity Analysis

| | | Cost of Equity | | | | |
|---|---|---|---|---|---|---|
| | | 3.58% | 4.08% | 4.58% | 5.08% | 5.58% |
| Growth Rate | 1.60% | 52.906 | 42.485 | 35.558 | 30.618 | **26.918** |
| | 1.85% | 59.312 | 46.299 | 38.050 | 32.352 | 28.179 |
| | 2.10% | 67.881 | 51.077 | **40.993** | 34.376 | 29.620 |
| | 2.35% | 79.934 | 57.236 | 44.712 | 36.770 | 31.285 |
| | 2.60% | **98.136** | 65.475 | 49.303 | 39.648 | 33.229 |

Sensitivity analysis was conducted to determine how the share price is affected when the cost of equity and growth rate are changed. The cost of equity will be based on 4.58%, with a plus or minus 1% variation, and the growth rate will be based on 2.1%, with a plus or minus 0.5% variation.

As seen in the chart above, the probability that Woolworths Group's share price will fall below the current market price is about 44% when compared to the current share price ($39.03). Consequently, we hold the view that there are still hazards involved in investing in Woolworths Group, and the company's management should persist in enhancing the worth of its shares.

## Investment Recommendation

Based on Woolworth Group's current stock value, our projection, and the possible range of fluctuation, we suggest investors purchase its shares, but we don't advise a strong buy. To be more precise, our projection value is higher than the current stock price, implying that the stock is a bit undervalued at the moment. Also, our sensitivity analysis shows that there is a 56% (14/25) chance of the share price increasing, but there remains a 44% (11/25) chance of it decreasing.

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# Appendices

| Forecasting Margins and Turnovers | Actual | | | | | | Forecast | | | | | Terminal years | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023F | 2024F | 2025F | 2026F | 2027F | 2028T | 2029T |
| Sales Growth | | 3.47% | 5.34% | -11.51% | 5.00% | 9.18% | 2.09% | 2.85% | 2.04% | 2.21% | 4.44% | 2.1% | 2.1% |
| Net operating profit margin | | 3.13% | 2.74% | 2.64% | 3.68% | 3.29% | 2.80% | 2.80% | 2.50% | 2.50% | 3.00% | 2.50% | 2.50% |
| Working Capital Turnover | | -22.76 | -22.35 | -15.71 | -15.71 | -9.05 | -15 | -12 | -12 | -12 | -12 | -12 | -12 |
| *=Sales/Opening operating working capital* | | | | | | | | | | | | | |
| Operating Long-term Asset Turnover | | 3.93 | 3.98 | 3.33 | 1.91 | 2.72 | 3 | 3 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| *=Sales/Opening Net Operating Long-Term assets* | | | | | | | | | | | | | |
| After-tax cost of debt | | 5.12% | 5.77% | 22.52% | 2.68% | 3.22% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% |
| Opening Debt to capital ratio | | 12.36% | 16.44% | 64.75% | 88.87% | 72.04% | 70% | 70% | 65% | 65% | 65% | 65% | 65% |

| Forecasting Financial Statements | Actual | | | | | | Forecast | | | | | Terminal years | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023F | 2024F | 2025F | 2026F | 2027F | 2028T | 2029T |
| Opening operating working capital | | -2,502.0 | -2,684.0 | -3,379.0 | -3,547.0 | -6,726.0 | -3,746.0 | -5,324.1 | -5,432.7 | -5,552.5 | -5,799.2 | -5,921.0 | -6,045.4 |
| Opening long-term operating assets | | 14,484.0 | 15,063.0 | 15,926.0 | 29,170.0 | 22,344.0 | 25,581.0 | 21,296.3 | 18,626.3 | 19,037.3 | 19,883.1 | 20,300.6 | 20,726.9 |
| **= Opening Net operating assets** | | 11,982.0 | 12,379.0 | 12,547.0 | 25,623.0 | 15,618.0 | 21,835.0 | 15,972.2 | 13,193.6 | 13,484.7 | 14,083.8 | 14,379.6 | 14,681.6 |
| Opening Net Debt | | 2,106.0 | 1,530.0 | 2,063.0 | 16,591.0 | 13,879.0 | 15,731.0 | 11,180.5 | 8,575.9 | 8,765.1 | 9,154.5 | 9,346.7 | 9,543.0 |
| Opening Shareholders' equity | | 9,876.0 | 10,849.0 | 10,484.0 | 9,032.0 | 1,739.0 | 6,104.0 | 4,791.7 | 4,617.8 | 4,719.7 | 4,929.3 | 5,032.9 | 5,138.6 |
| **= Opening Net capital** | | 11,982.0 | 12,379.0 | 12,547.0 | 25,623.0 | 15,618.0 | 21,835.0 | 15,972.2 | 13,193.6 | 13,484.7 | 14,083.8 | 14,379.6 | 14,681.6 |

| Income Statement | Actual | | | | | | Forecast | | | | | Terminal years | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023F | 2024F | 2025F | 2026F | 2027F | 2028T | 2029T |
| Sales | 55,034.0 | 56,944.0 | 59,984.0 | 53,080.0 | 55,733.0 | 60,849.0 | 62,119.4 | 63,888.8 | 65,192.1 | 66,630.5 | 69,590.8 | 71,052.2 | 72,544.3 |
| Net operating profit after tax | 1,615.8 | 1,783.8 | 1,646.2 | 1,402.5 | 2,051.5 | 2,003.8 | 1,739.3 | 1,788.9 | 1,629.8 | 1,665.8 | 2,087.7 | 1,776.3 | 1,813.6 |
| Interest expense after tax | 134.8 | 107.8 | 88.2 | 464.5 | 445.5 | 446.8 | 550.6 | 391.3 | 300.2 | 306.8 | 320.4 | 327.1 | 334.0 |
| **Net income** | **1,481.0** | **1,676.0** | **1,558.0** | **938.0** | **1,606.0** | **1,557.0** | **1,188.8** | **1,397.6** | **1,329.6** | **1,359.0** | **1,767.3** | **1,449.2** | **1,479.6** |

| Cost of Capital Assumptions | Actual | | | | | | Forecast | | | | | Terminal years | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023F | 2024F | 2025F | 2026F | 2027F | 2028T | 2029T |
| Cost of equity capital | 11.60% | 10.10% | 9.70% | 9.30% | | | | | | | | | |
| WACC | 8.30% | 7.80% | 7.10% | 6.90% | | | | | | | | | |
| Cash Flow forecasts | | | | | | | | | | | | | |

| Free Cash Flow to Equity Model | $X$$ | | | | | | Forecast | | | | | Terminal years | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023F | 2024F | 2025F | 2026F | 2027F | 2028T | 2029T |
| Net income | | 1676.0 | 1558.0 | 938.0 | 1606.0 | 1557.0 | 1188.8 | 1397.6 | 1329.6 | 1359.0 | 1767.3 | 1449.2 | 1479.6 |
| - change in operating working capital (during the year) | | -182.0 | -695.0 | -168.0 | -3179.0 | 2980.0 | -1578.1 | -108.6 | -119.9 | -246.7 | -121.8 | -124.3 | |
| - change in long-term assets | | 579.0 | 863.0 | 13244.0 | -6826.0 | 3237.0 | -4284.7 | -2670.0 | 411.0 | 845.8 | 417.5 | 426.3 | |
| + change in net debt | | -576.0 | 533.0 | 14528.0 | -2712.0 | 1852.0 | -4550.5 | -2604.7 | 189.2 | 389.4 | 192.2 | 196.3 | |
| **Free cash flow to equity** | | **703.0** | **1923.0** | **2390.0** | **8899.0** | **-2808.0** | **2501.1** | **1571.5** | **1227.8** | **1149.3** | **1663.8** | **1343.5** | |
| ***Free cash flow to enterprise*** | | | | | | | | | | | | | |
| Net operating profit after tax | | 1783.8 | 1646.2 | 1402.5 | 2051.5 | 2003.8 | 1739.3 | 1788.9 | 1629.8 | 1665.8 | 2087.7 | 1776.3 | 1813.6 |
| - change in operating working capital | | -182.0 | -695.0 | -168.0 | -3179.0 | 2980.0 | -1578.1 | -108.6 | -119.9 | -246.7 | -121.8 | -124.3 | |
| - change in long-term assets | | 579.0 | 863.0 | 13244.0 | -6826.0 | 3237.0 | -4284.7 | -2670.0 | 411.0 | 845.8 | 417.5 | 426.3 | |
| **= Free cash flow to all capital** | | **1386.8** | **1478.2** | **-11673.5** | **12056.5** | **-4213.2** | **7602.1** | **4567.4** | **1338.7** | **1066.7** | **1792.0** | **1474.3** | |

| **Equity Valuation** | | | Forecast | | | | | Terminal years |
|---|---|---|---|---|---|---|---|---|
| assuming cost of equity (re)= | 4.58% | | 1 | 2 | 3 | 4 | 5 | 6 |
| **Discounted cash flow (DCF) method** | | | | | | | | |
| Free cash flow to equity | | | 2,501.1 | 1,571.5 | 1,227.8 | 1,149.3 | 1,663.8 | 1,343.5 |
| * discount factor (for common equity) | | | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 | |
| = Present value of free cash flow to equity | | | 2,391.5 | 1,436.7 | 1,073.3 | 960.7 | 1,329.8 | |
| PV of FCF to Equity (years 1-5) | 7,192.0 | | | | | | | |
| + PV of FCF to equity beyond year 5 | 43241.4 | | | | | | | 54101.609 |
| **= Value of the equity** | 50,433.4 | | | | | | | |
| Number of shares outstanding ('000) | 1230.3 | Note: Factset diluted share outstanding | | | | | | |
| **Estimated value per share** | **40.9928** | Note : Current market price: 39.03 | | | | | | |

| **CAPM Model** | |
|---|---|
| **Cost of equity (re)** | 4.58% |
| Risk free rate (rf) | 3.18% |
| Market risk premium (rm) | 6.45% |
| Beta | 0.43 |
| | 0.21 |

**Sensitivity Analysis**

| | | Cost of Equity | | | | |
|---|---|---|---|---|---|---|
| | | 3.58% | 4.08% | 4.58% | 5.08% | 5.58% |
| | 1.60% | 52.906 | 42.485 | 35.558 | 30.618 | **26.918** |
| | 1.85% | 59.312 | 46.299 | 38.050 | 32.352 | 28.179 |
| **Growth Rate** | 2.10% | 67.881 | 51.077 | **40.993** | 34.376 | 29.620 |
| | 2.35% | 79.934 | 57.236 | 44.712 | 36.770 | 31.285 |
| | 2.60% | **98.136** | 65.475 | 49.303 | 39.648 | 33.229 |