ACCT 11059 : Accounting, Learning and Online Communication

# Assessment 2

# Steps 7-10

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# Step 7

Coca-Cola Amatil (CCA) manufacture and distribute a wide variety of products across many different product ranges including soft drinks, coffee and dairy products, health conscious drinks such as kombucha, and alcoholic beverages.

When selecting my three products to calculate the variable costs I decided to choose three items from differing product ranges. The products I chose are:

1. 30 pack Coca-Cola cans
2. 500 ml Barista Bros Iced Coffee
3. 700 ml Jim Beam Spirit

Variable costs are the costs that are dependent on the level of output in production, therefore, the greater amount of a particular product produced the higher the variable cost associated with that product. For CCA, the greater the amount of product manufactured the higher the cost of raw materials, electricity and labour costs.

I have estimated the variable cost percentages for CCA to be:

1. Coca-Cola cans – 90%
2. Barista Bros Iced Coffee – 90%
3. Jim Beam Spirit – 90%

The variable cost for each product is as found via Woolworths and BWS:

1. Coca-Cola 30 pack - $38.90 X 90% = $35.01
2. Barista Bros Iced Coffee - $3.20 X 90% = $2.88
3. Jim Beam 700ml - $45 X 90% = $40.50

Contribution margin = sales price (S) – variable cost (VC)

1. Coca-Cola - $38.90 - $35.01 = $3.89
2. Barista Bros - $3.20 – $2.88 = $0.32
3. Jim Beam - $45 - $40.50 = $4.50

**Contribution Margin Discussion**

A contribution margin is the amount of sales remaining after the variable costs have been paid, this remainder is used to pay fixed costs and earn profit. All three of the products I have chosen have a positive contribution margin, therefore, contributing to fixed costs and profit for CCA. On initial glance the contribution margin for my selected products are quite different, but the products are also very different. Each of the products I have chosen contain different ingredients and have differing processes in manufacturing. Different pack or serving size is also a factor in the differing contribution margins. It makes me consider whether a 600ml coca cola would have a similar contribution margin to the 500ml barista bros iced coffee.

There are a number of reasons why CCA might offer such a large range of products regardless of the contribution margin. Firstly, CCA wants to diversify their product range. Providing a wide range of products in many different beverage categories allows for a drink to be chosen by consumers for any occasion. If CCA only manufactured one product type, CCA could miss the opportunity to appeal to a wider audience. For example, the Coca-Cola range of products are produced in many variations such as original coke, diet coke, caffeine free, coke zero and vanilla coke.

Secondly, CCA aims to be the market leader in the beverage market, as outlined in their annual report. Constantly looking to expand their range either through manufacturing or through rights to distribution for subsidiary companies such as Beam Suntory, the manufacturer of Jim Beam among other alcoholic beverages. By investing in such businesses CCA is also promoting sales of their own products through product complementation.

For a firm such as CCA, offering products with both high and low contribution margins is essential. Every product will not appeal to every customer, by offering an extended range of products they are reaching the greatest number of consumers. Some of their products could be considered seasonal, iced coffee for example might sell better in the summer than in winter. Product sales is another consideration, Jim Beam offers a higher contribution margin but a store might only sell 100 bottles in a month but might sell 1000 cartons of Coca-Cola in the same period. I think this highlights the benefits of a extended product range regardless of contribution margins.

**Constraints Discussion**

The main constraint the CCA faces is the availability of resources. CCA needs to source raw materials to manufacture their products such as water and sugar. Resources are limited so CCA needs to consider the best product mix ratio to be able to effectively use their available resources.

More recently during the COVID-19 pandemic, the production of products in Victoria may have been affected due to the lockdown, in addition to the supply of beverages to customers at restaurants may have been reduced during closures. The economic climate has been restricted due to the pandemic and many people are out of work and potentially not purchasing CCA’s products.

CCA has realised that resources are scarce so has put actions into place to replenish those resources and to look after the environment. An example of this is 90% of plastic bottles used by CCA in manufacturing are made from recycled plastic. Regardless of these constraints I believe CCA will continue to move forward as a market leader.

# Step 8 Ratio Analysis

**Profitability Ratios**

The net profit margin measures the amount of revenue that a firm converts into net profit. Looking at the percentages for CCA, their profit margin is quite low. In 2016, their net profit margin was $0.066 per dollar of revenue, it had a brief downturn in 2017 due to a large expense of $141.4 million on foreign exchange differences on translation of foreign operations. In 2018, their net profit margin increased to $0.076 and further to $0.089 in 2019, which coincided with increased revenue. I would have thought this percentage would have been higher.

The return on assets (ROA) measures how well a firm uses its investments in assets to turn a profit. CCA’s assets have been fairly consistent over the four year period, varying between $6.05 billion and $6.5 billion. The effect of the foreign exchange differences expense mentioned above in the 2017 year is also felt in the return on assets ratio. However, there has been consistent growth in the 2018 and 2019 years, up by 1% each year. While I don’t consider CCA’s ROA ratio to be high, it is moving in a positive direction.

**Efficiency Ratios**

The days of inventory ratio shows how long a firm is holding products in their inventory before they are sold. Some general research says that 90 days or less is optimal, longer than this and it can cost a firm extra money. In 2016, CCA’s days of inventory was 84.01, it fluctuated up and down over the next few years and in 2019 inventory was being held for 79 days. I believe this is a comfortable margin without having to place pressure on production and eliminates the risk of running out of products to sell. The years that the days held in inventory is higher, CCA had a greater dollar amount in inventory, which looks like it could have been a result of fluctuations in the amount of goods sold. The years where the days of inventory was higher, the cost of goods sold was at its lowest. From a management perspective, I would consider that CCA is in a good position with days of inventory.

After posting on the Facebook group about other firm’s efficiency ratios, Melissa Shepherd’s firm Top Glove, had days of inventory ranging from 40 to 58 days over the four years. This is interesting that her firm was holding inventory for less days than CCA.

Total asset turnover ratio shows how efficient the assets are in generating sales for the firm. CCA’s total asset turnover ratio is holding steady with only minor changes over the four year period. In both 2018 and 2019 the assets are producing $0.77 per $1 invested in the assets. While I would consider a higher number to be favourable, 0.77 and holding steady is still comfortable for CCA.

**Liquidity Ratio**

The current ratio determines the liquidity of a firm, that is, a firm’s ability to repay their current liabilities with current assets. Examining the current ratio for CCA, it seems to fluctuate every two years. In 2018, when the ratio was highest at 1.71, CCA’s borrowings were at their lowest and they had $55M in assets for sale through demerging with SPC. In 2019, the introduction of AASB 16 has had an effect on CCA’s liquidity, in addition to increased borrowings in the form of bonds. While it is still able to meet it’s current liabilities at 1.49, it is not in as much of a favourable position.

**Financial Structure Ratios**

The debt to equity ratio simply compares the firms debt to the firms equity and shows what percentage of the firm’s financing is through creditors and investors. When I calculated this ratio, I was concerned. CCA is funded greatly through creditors and the trend is increasing, in 2016 for every dollar equity investors placed into CCA, debt investors were contributing $1.84. Each year this has increased and in 2019 resulted in debt investors contributing $2.37 per dollar of equity. On initial view, this isn’t a good position for CCA to be in. Overall, their borrowings are consistent over the four years when considering both current and non-current liabilities. The notable change in 2019 is the lease liabilities which totals $529.8M. Upon further inspection of the footnotes these liabilities are uncancellable leases for property, plant and equipment including a new bottling facility in Queensland. It will be interesting to see if the trend continues into the 2020 year.

The equity ratio compares the firm’s equity to the firm’s assets. The result of this ratio shows how many assets would be left after paying the liabilities. Similarly to the debt/equity ratio, while the differences each year are minimal, the trend is concerning. The most notable change was from 2016 to 2017 where the ratio dropped from 35.1% to 31%. Consulting the financial statements shows the reduction of cash assets and also a reduction in non-current property plant and equipment assets seems to be the reason for this decrease in solvency. Additionally, share capital was greater in 2016 with 763.5 million shares but the number of shares was reduced in 2017 to 723.9 million, so this also has had an impact on the equity in CCA.

**Market Ratios**

Earnings per share (EPS) shows how profitable a firm is on a shareholder basis. I was surprised that the EPS was so low for CCA. Although in 2019, it has had a considerable growth up to $0.63 from $0.50 in 2018, I can only associate this growth with a considerable increase in profit for the year. For a firm the size of CCA, I would have expected the EPS to be higher.

Dividends per share (DPS) shows how much per share shareholders received from CCA. Again, I was quite surprised that CCA was paying such low dividends, between $0.45 and $0.51 across the four years. It should be considered that $0.51 does not sound like a great return on investment, but it equates to $369 million paid to its shareholders in 2019.

The price earnings ratio measures the market share price of a firm relative to its earnings. I understand the price earnings ratio would be a price that is reasonable for an investor to pay based on the current performance of the firm. In 2019, CCA’s market price per share was $11.06, but based on their earnings the market could be willing to pay up to $17.65 per share. Although, I am slightly confused why in 2017 the market price was $8.51 but the price earnings ratio was $20.75 with a similar situation in the 2016 year.

**Ratios Based on Reformulated Financial Statements**

Return on Equity (ROE) is how much of the equity invested in the firm has been turned into net profit. Like my firm’s profitability ratios, the trend is a positive one. Starting with a return of 14.72% in 2016 and increasing each year to reach 23.24% in 2018. I was surprised that the 2016 ROE was as low as it was because the equity was quite high but the total comprehensive income for the year was low so this affected the ROE.

Return on Net Operating Assets (RNOA) evaluates how effective the firm is in generating profit from their operating assets. The RNOA is showing steady growth over the four years which can be related back to the increase in total comprehensive income for the year. I find it interesting that the RNOA is double the return on assets ratio. I think this shows that CCA’s operating assets are efficient in generating profit for the firm, whereas the return on assets ratio had me questioning the profitability of CCA.

The Net Borrowing Cost (NBC) shows how much borrowings cost the firm in items such as interest. In 2016, CCA’s NBC was 4.9% which looking at my restated financial statements makes sense because the borrowings were at their greatest during that year. The NBC dropped to its lowest in 2018 at 2.94% which also coincided with a reduction in borrowings. However, in 2019 the NBC has increased to 3.59% again this is related to the increase in borrowings. I think CCA’s NBC is at a sustainable level without it having a major financial impact on the profitability of the firm.

The Profit Margin (PM) ratio calculates the profit a firm earns from its operating income. CCA is a firm manufacturing and distributing products so the large majority of their income is from their operations. There is a slight difference, approximately 1% each year over the four years, between the PM and net profit margin calculated earlier, which I believe allows for the finance income and the share of profit from equity investments that CCA earns.

Asset Turnover (ATO) shows CCA how much of their sales are being generated by their operating assets. In comparison to the total asset turnover ratio, the ATO is almost double for each of the four years. The weakest performing year was 2018 with $1.45 of revenue generated for each dollar invested into the firms operating assets with 2019 reporting an ATO of $1.57 per dollar invested in assets. I believe this shows that CCA’s net operating assets are efficient in generating sales for the firm.

**Economic Profit Discussion**

Economic profit is the difference between the revenue received and the costs deducted as well as taking into account the opportunity cost of capital. After looking through CCA’s annual report I found they listed their own weighted cost of capital (WACC) of 7.2% which I have chosen to use in my economic profit calculations.

The main drivers of economic profit are RNOA, cost of capital and NOA with the drivers of RNOA being PM and ATO. I can see the relationship in the numbers between these drivers. In CCA, the economic profit is positive each year with the lowest amount of economic profit being in 2017 at $109.8 million. Since 2017 CCA has grown their economic profit to $167.3 million in 2018 and had a large increase in 2019 to $266.8 million. Now to determine what is driving the growth in economic profit.

In 2016 economic profit was $146.9 million and looking at my restated financials this is being driven by RNOA and PM. During this year CCA had the highest inventories and property, plant and equipment assets, in addition to the highest amount of sales for the year. ATO was constant with only minor fluctuations over the four years so this leads me to believe that ATO is having no impact on CCA’s economic profit.

During 2017 CCA’s economic profit dropped to $109.8 million. The most notable difference on the financials is the decrease in property, plant and equipment which was due to the sale of a manufacturing and warehouse plant. Additionally, as mentioned in the ratio analysis above CCA had a $141 million liability in foreign exchange differences for the year. The decrease in NOA has had an impact on CCA’s economic profit in 2017. Although due to the reduced assets, this lead to a slight improvement in the ATO. In 2017 the main driver of economic profit was RNOA.

The economic profit increased again for the 2018 year which was surprising because their operating income was actually at its lowest over the four years. Further examination of the financials shows only small differences but they are having a large impact on economic profit. During this year, CCA placed their SPC business for sale, in addition to acquiring intangible assets in relation to software development. Throughout this year CCA also held less inventory which positively impacted their NOA. Again, I believe the driver of economic profit is RNOA.

In 2019 there was a significant increase in economic profit for CCA to $266.8 million. I believe the growth in economic profit this year is strongly related to the introduction of AASB 16 with regards to leases. While there were some property, plant and equipment acquisitions through the year, the balances largely arise from the adoption of the new accounting standard. Furthermore, CCA’s revenue increased significantly by $300 million for the year. This leads me to think that both PM and RNOA are the drivers of the growth for the 2019 year.

# Step 9

CCA is considering two investment options, the first is an additional factory and warehouse facility in Adelaide and the second is a concept specialty store in Sydney. For the first investment option this will allow CCA to further expand their operations and potentially their product range. The second investment option will be a store for consumers to personalise CCA products and purchase merchandise.

The initial investment for the factory and warehouse facility includes the construction of the building, machinery for manufacturing, other equipment such as forklifts and other costs associated with start-ups. Similarly, the initial investment for the concept store would include the construction of a shop, the shop fit out and equipment to allow for personalisation of products. It is expected that the factory and warehouse facility will be a significantly larger investment than the concept store. Currently, Adelaide has no CCA manufacturing or warehouse facilities and the concept store in Sydney would be a first for CCA.

Expected cashflows will be calculated as revenue minus expenses and will be received on 30th June each year, with the initial investment taking place on 1st July 2021. While it is expected that both investment projects would be viable for longer than 10 years, for the purpose of making the capital investment decision we will calculate cash flows for the 10 year period. At the end of the 10 year period CCA could sell the buildings associated with both investment options, equipment would be distributed to other CCA manufacturing locations.

The first year of cash flow of both investment options is estimated to be negative due to needing to build inventory of raw materials initially. This also allows for the recruitment and training of staff prior to beginning operations.

Initial investment, estimated useful life, estimated residual value and estimated cash flows are shown in the table below. All figures are expressed in AUD.

|  |  |  |
| --- | --- | --- |
|  | Factory and Warehouse | Concept Store |
| **Initial Investment** | $-150 million | $-10 million |
| **Useful life** | 10 years | 10 years |
| **Residual Value** | $10 million | $1 million |
| **Estimated Cash Flows** |  |  |
| **2022** | $-10 million | $-2 million |
| **2023** | $15 million | $500,000 |
| **2024** | $25 million | $750,000 |
| **2025** | $25 million | $1 million |
| **2026** | $30 million | $1 million |
| **2027** | $30 million | $1.5 million |
| **2028** | $35 million | $1.5 million |
| **2029** | $35 million | $1.5 million |
| **2030** | $35 million | $1.5 million |
| **2031** | $35 million | $1.5 million |

I have calculated the net present value (NPV), internal rate of return (IRR) and the payback period for each investment. I have used the discounted cost of capital rate of 8%. The results of these calculations can be found in the table below. NPV is expressed in AUD.

|  |  |  |
| --- | --- | --- |
|  | **Factory and Warehouse** | **Concept Store** |
| **NPV** | $8.17 million | $-4.51 million |
| **IRR** | 9% | -0.3% |
| **Payback Period** | 7 years | Investment never paid back within 10 years |

The payback period is the time it takes for the investment to break even with the initial cost of investment. A firm will consider investments that are paid back within a predetermined timeframe. In this scenario, the payback period is 10 years, the factory and warehouse investment will be paid back in 7 years and the concept store will not be repaid at any time over the 10 year period. Just considering the payback period, the factory and warehouse investment option is looking to be the best investment decision.

Net present value or NPV is the difference between the present value of cash inflows and present value of cash outflows over a period. It is assumed that a positive NPV will be profitable for the firm and a negative NPV will result in a loss. Comparing the two investment opportunities, the factory and warehouse investment has a positive NPV of $8.17 million and the concept store is likely to perform at a loss at -$4.51 million. Based on NPV only, CCA should further consider the investment of the factory and warehouse facility.

Internal rate of return or IRR is the annual amount of growth expected on an investment. The calculation of IRR is expressed as a percentage, for an investment to be profitable the IRR should be greater than the WACC, in this case 8%. A negative result should be disregarded because the investment will lose money for the firm. In this scenario, the IRR for the factory and warehouse facility in Adelaide has an IRR of 9% which is greater than the WACC so would be considered to be a good investment. On the contrary, the concept store has a negative IRR of -0.3% and would not be considered a good investment for CCA.

Overall, based on the results from the calculations of payback period, NPV and IRR, CCA should invest in the factory and warehouse opportunity.

**Discussion**

I was surprised that the concept store was actually unprofitable, the cash flows seemed as though the return would be positive considering the much smaller investment compared to the factory and warehouse investment. Although the weakness of this analysis is that all figures are estimations, I actually have no idea how much a shop would cost to build or what sort of cash flows would be expected in such a business.

I enjoyed calculating the NPV and IRR, the task sounded much more daunting than it actually was, yet another skill I have learnt in this unit using excel!

I can see limitations for each of the methods used in making a capital investment decision. The payback period does not consider the time value of money, meaning a dollar today is worth more than a dollar tomorrow and NPV can easily be influenced by using a different WACC but it also takes into consideration the time value of money. Overall, I feel that all of these methods when used together can paint a picture of both good and bad investments.