

Financial Management

Assignment 1

LCMB7002

Paulina Damuc

Student Number: 1907490

Table of Contents:

1. Overview of the company and its financial performance
 2. Financial Ratios Introduction
 3. Profitability Ratios
 4. Liquidity Ratios
 5. Gearing Ratios
 6. Efficiency Ratios
 7. Capital Investment Decisions
- Appendices and formulas

1. Overview of the company's and its financial performance:

J Sainsbury (Sainnsburys's) is a UK based public limited company registered in London Stock Exchange and TS100. It is a retail company that offers general merchandise, clothing and groceries. The main business accounting for company turnover is a retail food chain. Sainsbury was founded in 1869 and over the years grew to one of the main supermarket chain operators in the UK. The company also operates online grocery and general merchandise business. Sainsbury's reported revenues of (British Pounds) GBP29,007 million for the financial year ended in May 2019, an increase in comparison to Financial year 2018. In 2019, company recorded a net margin of 0.8 %, compared to 1.1% in Financial Year 2018. Sainsbury bases products from 70 countries and deliver them via 33 distribution centres. It currently operates 2,300 supermarkets under Sainsbury's, Argos stores and some convenience stores in UK and Ireland. It maintains business interests in financial services, property management and energy sectors through subsidiaries and joint ventures. It is reported that company operates through three main business segments: Retail, Financial Services and Property Investment. The retail segment operates 1,428 stores including 820 convenient stores and 608 supermarkets. The retail segment offers food and non-food products, it also offers ready to wear clothing under TU brand. Sainsbury's home brand provides home improvement products via Habit brand. Company also provides sustainable energy solutions to many homes in UK. For financial year 2019 retailing segment reported revenue of GBP 28,466 million, which accounted for most of the company revenue, 98.1 %. Financial service segment includes Sainsbury's Bank which offers a range of Financial products like: loans, credit cards, insurance and travel money. It is reported that as of March 2019 Company operated 1,820 ATM's and serves 3.9 million customers through Sainsbury's bank and Argos financial services. In financial year 2017 financial services segment reported GBP 541 million which made 1.9% of company's revenue. Property Investment Segment includes joint ventures with The British Land Company and Land Securities Group, company's property portfolio consist of freehold and long leasehold properties as well as properties with joint venture agreements. Sainsbury's main competitors on the market include: Tesco, Aldi UK, Morrisons and Associated British Foods (MarketLine, 2019). According to (Onita, 2019) for the financial year of 2019 Sainsbury' performance was relatively better in comparison to its major rivals for the first time in two years. The grocer was reported to have 15.4pc of the market for the 12 weeks to August which showed the early sign of improvement in sales after the financial downfall caused by failed attempt to acquire smaller rival Asda for £7.3bn. According to the same article the decline in shares was the smallest since November 2017 while each of its key rivals lost shares. Sainsbury's share price rose 2.6pc which valued company at £4.3bn. As reported by (Onita, 2019) the external political and economic factors like no Brexit deal could result in negative effect on company performance by affecting grocery suppliers, operating costs and rationing. According to Sainsbury's CEO Mike Cope in Annual Report 2019 the main highlights of the company performance in recent year are: increased profits, reduced debt, completed integration with Argos that was set up in 2016 and brought up £160million in synergies ahead schedule. Another important highlight is investment in improvement of over 400 supermarkets and successful online sales which generated £4.7 billion revenue in 2019. In the same report it is indicated that company strategy is directed at further investment in technology and reduction of debt by at least £600 million within the next three years.

2. Financial Ratios Introduction:

As described in (Atrill and Mc Laney 2008) financial ratios calculations are used in order to determine the financial position of the business and company performance. They can be used to determine the financial strengths and weaknesses of the business and indicate the recommendations for future growth. As discussed by the same author in order to establish the clear picture of the company performance it is necessary to evaluate the change in ratios for the past periods and compare findings with a main competitor on the market. The aim of this section is to analyse the financial ratios of Sainsbury plc for the past five years (2015-2019) based on company Income Statements and Balance Sheet and compare last year financial performance with one of the current main competitors Tesco plc. Tesco was founded in 1919 by Jack Cohen in south of England and over the years it is established to be a global brand mainly operating in UK, Thailand, Malaysia, Czech Republic, China and Hungary. It is currently operating more than 6800 stores and employees over 450,000 people. It is listed on London Stock Exchange and FTSE100 Index .Its diverse portfolio includes areas like: books retailing, financial services, telecom, and internet services although the food retail sector is generating most of the company profits. According to annual Report (TESCO, 2019) company generated a total of £63,911 million revenue in financial year 2018 and its operating income is estimated at £2,206 million.

3. Profitability Ratios:

According to (CFI, 2015) profitability ratios are used by the companies in order to determine company's earning power. These ratios are used by companies to evaluate the ability of the company to generate income that is relative to revenue, operating costs, balance sheet assets and shareholders' equity over the specific period of time. This section is going to analyse three profitability ratios: Operating Profit Margin, Gross Profit Margin and Net Profit Margin of Sainsbury Plc. For the past five years and compare against the same ratios calculated for competitor Tesco plc for year 2019.

Sainsbury's	2015	2016	2017	2018	2019	Tesco 2019
Operating Profit Margin	0.34	3.01	2.44	1.82	1.07	3.45
Gross Profit Margin	5.08	6.19	6.23	6.61	6.92	6.60
Net Profit Margin	0.30	2.33	1.92	1.44	0.82	2.68

Source: Authors calculations and Annual Financial Reports of Sainsbury's and Tesco

Operating Profit Margin:

According to CFI an operating profit margin indicates how operationally efficient the company is, it compares operating profit of the company for given period with sales revenue during that period. As explained by (Atrill and Mc Laney, 2008) the operating profit indicates the net profit from trading operations before interest and taxation is taken into account. For each £1 of sales revenue an average of £0.024 was left as operating profit after paying the cost of goods sold and other expenses of operating the business in 2017. Further decrease can be observed in years 2018 and 2019. In comparison to Tesco financial report for year 2019 the operating profit margin is higher for Tesco which means that the company creates more value for shareholders and continuous loan services for lenders. According to (CFI, 2015) important factors in comparison analytics of operating profit margin between two companies are geography and company size. In addition Tesco who is currently the largest group of supermarkets in UK indicates higher operating profit margin.

Gross Profit Margins:

According to (Atrill and Mc Laney, 2008) gross profit margins is related to the cost of sales and sales revenue and it has a significant impact on the profit of the year generated by the company. The ratio is measuring the profitability in producing or buying goods before any other expenses are considered. Accordingly an increase of gross profit margin between years 2015 and 2019 may indicate that a company increased the volume of sales without an increase in price of sales of goods per item or by reduction of cost of goods. In comparison the gross profit margin of TESCO for financial year 2019 is lower by 0.32% than Sainsbury's which may indicate that Sainsbury is able to make a reasonable profit on sales if the overhead costs will remain to be kept under control. It may also indicate that the price of goods sold by TESCO in financial year 2019 could be under-priced.

Net Profit Margin:

According to (CFI, 2015) a net profit margin reveals how profitable the company is after subtraction of all its expenses that include taxes and interest payments. Net profit margin is described by (Atrill and Mc Laney, 2008) as financial ratio that is used in order to calculate the percentage of profit produced by the company from company's total revenue. It is calculated by dividing company's net profit, also known as net income (before interests and taxes) by its revenue.

Based on the above analyses of Sainsbury's net profit margin between years 2015 and 2019 it shows that there is no clear trend of increase and decrease. Net current margin seems to be fluctuating and the highest figure can be observed in year 2016 where for each 1£ of revenue company earned £0.023 in net profit. By taking to account year 2019 it can be observed that Tesco's net profit value is higher than Sainsbury's for the same year. For each 1£ of revenue Tesco's generated an average of £0.02 in net profit which is significantly more than Sainsbury's performance in the same year. In fact 2019 was a year where net profit margin was the lowest since 2015. According to (Avenir, 2012) a low net profit margin should be an alarming indicator for the company. It might indicate that company had to reduce price per unit due to discounted prices offered by competitors. In order to improve the net profit

margin it is suggested that company needs to increase sales and reducing expenses simultaneously.

4.Liquidity Ratios:

According to (Atrill and Mc Laney 2008) liquidity ratios are calculated in order to establish if the company is able to meet its short term financial obligations. The following two ratios will be considered: current ratio and acid test ratio.

	Sainsbury's 2015	Sainsbury's 2016	Sainsbury's 2017	Sainsbury's 2018	Sainsbury's 2019	Tesco's 2019
Current Ratio	0.64	0.66	0.74	0.76	0.66	0.61
Acid - Test Ratio	0.49	0.51	0.53	0.59	0.49	0.48

Source: Authors calculations and Annual Financial Reports of Sainsbury's and Tesco

Current Ratio:

According to (CFI, 2015) current ratio of the company is calculated in order to establish how financially solid company is in relation to its outstanding debt. It is also known as working capital ratio and it estimates business capability to meet its short term obligations that are due within a period of a year. Current ratio sets the weight of total current assets versus companies' current liabilities. The higher the ratio the more liquid the business is considered to be, (Atrill and Mc Laney, 2008). In case of Sainsbury's Current assets are considered to be: Inventories, trade and other receivables, amounts due for financial customers, financial assets at fair value through other comprehensive income, derivative financial instruments, cash and cash equivalents. Current assets are considered to be: Inventories, trade and other payables, amounts due to financial services customers and other deposits, borrowings, derivative financial instruments, tax payable and provisions. According to above ratios calculations for Sainsbury's, years 2015-2019 current ratio is relatively stable. It seems to be slightly decreasing in year 2019, at the same time current liabilities increased during this year. According to (Sainsbury's 2019) financial report the cost of amounts due to financial service customers and other deposits rose by £956m between year 2018 and 2019. In comparison to Tesco's current ratio for 2019 although the total sum of current assets and liabilities is higher than Sainsbury's mainly because more assets and liabilities are considered in financial report in oppose to Sainsbury's case, the current ratio for both companies are comparable and the figures are similar. In conclusion current ratio analyses indicate that both companies are financially solid and should continue the successful strategic management applied up to date.

Acid-test ratio:

According to (CFI,2015) the Acid-test ratio, also known as a quick ratio is a liquidity ratio that indicates how company's short term assets are to cover its current liabilities. In addition it

estimates how well the company is able to cover its current financial obligations. It is said in (Atrill and Mc Laney 2008) that for many companies inventories cannot be quickly converted into cash therefore it is best to exclude them from the quick ratio calculation of company liquidity. In addition in consideration of supermarket business most of the companies are usually carrying a large value of stock (inventories). The value of quick ratios varies from industry to industry and according to (Atrill and Mc Laney, 2008) it is not very common for the acid-test ratio to be below 1.0 without causing the liquidity problems for the company. However according to (Kaplan, 2012) it is normal for big supermarkets to have a very low quick ratio. (Merlin Scott Associates Ltd, 2020) also suggests that for big supermarkets like Sainsbury and Tesco the numbers are usually very low which is due to a fact that both companies need to carry a large quantities of inventories at any given time. In addition after taking out the inventories the numbers are even lower than in current ratio analyses however it does not indicate that either of two competitors is struggling to pay its debts. As seen on the ratio calculations for Sainsbury's in years 2015-2019 the quick ratio seems to be stable through the years and the figure for 2019 resembles Tesco's quick ratio number for the same year.

5.Gearing ratios:

According to (Atrill and Mc Laney, 2008) financial gearing occurs when business is financed by borrowings (at least in half) instead of finance provided by the owners (in other words shareholders) as equity. A business level of gearing is an important factor in assessing company risk. In case when the borrowings are heavy the risk of business becoming insolvent is bigger. A company with lower gearing ratio is usually considered more financially stable. In order to indicate how company's assets and business operations are financed the leverage ratios are used to calculate whether the company uses debt or equity. There is a several number of leverage ratios used in order to analyse companies financial risks this report is going to analyse debt to capital and debt to equity ratios.

Debt to equity ratio:

As stated by (CFI, 2015) debt to equity ratio is a leverage ratio that calculates the weight of total debt and financial liabilities in relation to shareholders total equity. This ratio indicates how company's capital structure is titled, either to debt or equity financing.

Debt to capital ratio:

Debt to capital ratio calculates the relation between total debt and total capital, its debt and equity combined. The data is calculated by the sum of total debt divided by the sum of total debt and total equity (CFI, 2015).

	Debt to Equity Ratio	Debt to Capital Ratio	Total Equity	Total Borrowings
TESCO 2019	0.5	0.33	14834	7272
Sainsbury's 2019	0.21	0.17	8456	1782
Sainsbury's 2018	0.30	0.23	7411	2240
Sainsbury's 2017	0.32	0.24	6872	2211

Sainsbury's 2016	0.38	0.27	6365	2413
Sainsbury's 2015	0.5	0.33	5539	2766

Source: Authors calculations and Annual Financial Reports of Sainsbury's and Tesco

In addition to above analyses of Sainsbury's for the last five years it seems that debt to equity ratio and debt to capital ratio are quite low and seem to decrease over time. The above indicates that also total borrowings are decreasing which shows that company does not need to borrow as much as in 2015 and accordingly total equity of the company is gradually increasing each year. Although Tesco's figures are slightly higher in comparison to Sainsbury's figures for the same year both competitors seem to manage its business in strategic way. Both debt to equity and debt to capital ratios are low and total equity is almost double the size of borrowings for Tesco in 2019, similarly Sainsbury's ratio is very promising in 2019 and it is recommended for both companies to continue with the successful strategic management in upcoming years.

6.Efficiency Ratios:

As described by (Atrill and Maclaney, 2008) efficiency ratios are used by companies in order to analyse its abilities to successfully employ resources such as capital and assets to produce income. This report is going to analyse the following efficiency ratios: assets turnover and fixed assets turnover

	Assets Turnover	Fixed Assets Turnover
Sainsbury's 2019	1.23	2.99
Sainsbury's 2018	1.29	2.87
Sainsbury's 2017	1.33	2.62
Sainsbury's 2016	1.38	2.41
Sainsbury's 2015	1.44	2.46
TESCO 2019	1.30	3.36

Source: Authors calculations and Annual Financial Reports of Sainsbury's and Tesco

Assets turnover ratio is calculated by dividing company sales in the period of time by total assets (Atrill and Mc Laney, 2008). This ratio indicates the amount of sales generated from each pound of assets. As illustrated in the graph within the period of five years Sainsbury's assets turnover is relatively low and trend is declining towards 2019. The same correlation can be observed in competitor assets turnover figure for year 2019. Tesco's assets turnover is very similar to Sainsbury's. Considering the fact that there is an increase in sales between years 2015 and 2019 it might be recommended for Sainsbury to work on increasing revenue. In order to improve efficiency obsolete or unused assets should be liquidated quickly. In addition to above analyses it can be observed that between years 2015 and 2019 there is a trend of rising value of assets turnover for Sainsbury's. A rising ratio of fixed assets turnover indicates that the company each year improve the ability of using its assets to generate

revenues. Although a rising fixed assets turnover is a positive trend it may also indicate for the company management will need to strategically plan increase in its asset base (plant, property, equipment) to reduce its capacity and support sales. In comparison Tesco's fixed assets turnover rate is also quite high which shows that company is efficiently uses its fixed assets to generate revenue.

7.Capital Investment Decisions

In the given task Sainsbury Plc need to consider which one of two investment projects presented below will be more profitable for the company. As described by (Atrill and Mc Laney 2008) this part of financial management is called capital investment decision. In addition Sainsbury's plc need to consider many aspects in order to choose the project that pursue the key financial objectives of the company and enhance the wealth of the owners (shareholders).

As described by (Atrill and Mc Laney, 2008) considering the importance of the investment decisions the in-depth screening of investment proposals is required. As stated by (Denzil Watson and Head, 2011) companies need to consider if they will get the return of investment, if the investment is going to generate more cash or provide the cost saving over the life of the project. In addition the correct methods of evaluation should be adjusted in the process, these are: Accounting Rate of Return (ARR), Payback Period (PP), Internal Rate of Return (IRR) and Net Present Value (NPV).

The company cost of capital is at 8.73%

Year	Project Cash Flow (£m)	
0	-103	-115
1	10	60
2	30	40
3	50	60
4	65	5

As suggested by (Denzil Watson and Head, 2011) the first in calculation should be consideration of pro forma capital investment decisions. In addition in project A the cash outflow is valued at -103 and in year four company is going to generate the subtotal of £155m (10+30+50+65). Accordingly company Net cash flow is going to be £52m. After proceeding with the same calculation for project B the Net cash flow in year four is £50m. It may appear that project B is slightly more profitable however as suggested by (Denzil Watson and Head, 2011) it is not just a case of which company gives the higher return of investment. Other factors like time of return of the investment money and the value should be considered as well. In addition on given example in project B grater amount of money comes sooner in the first year.

Accounting Rate of Return ARR:

The Accounting Rate of Return takes into consideration the average accounting operating profit generated by the investment and presents the percentage of average investment made of over the life of the project (Atrill and Mc Laney, 2008). Accordingly in order to calculate the

Accounting Rate of Return first we need two values: the average annual operating profit and the average investment. Following the formula ($ARR = (\text{Average operating profit} / \text{Average investment}) \times 100\%$) the average operating profit for project A over the four years will equal £38.75, based on the simple calculation $(10+30+50+65 / 4 \text{ years})$. Secondly, according to formula the average investment to earn that profit should be calculated with consideration of depreciation. In consideration of both investment opportunities for Sainsbury's plc the assumption is made that all cash flows arise at the year and straight-line depreciation is used over the life of the project with zero scrap value. Accordingly the Average Rate of Return value for project A, should be calculated as: $ARR = (38.75/103) \times 100\%$. Following on the same calculation for project B the accounting rate of return is presented below:

	Project A	Project B
Accounting Rate of Return	37,62%	35,87%

Based on the calculation it appears that accounting rate of return for project A is higher therefore project appears to be more profitable. However as described in (Atrill and Mc Laney, 2008) it is important for the companies to consider the performance of the project during the whole lifecycle. In addition cash is an important factor measuring the performance of the project and its benefits for the company. As described by the same authors cash flows generated early can be used to acquire other resources and for distribution to owners. In addition accounting rate of return is recommended to be used for calculating profitability of the project over the short period of time. As suggested by the same author for projects with the longer life cycle it is necessary to perform other calculations which focus on the amount of cash flows and payback period.

Payback Period:

Is the length of time that takes for the initial investment to be repaid out of the net cash flow from the project. It is suggested that the project that repays the investment in the shorter period of time is more profitable (Atrill and Mc Laney 2008).

Project A Payback Period

Year	Net Cash Flow (£m)	Cumulative Net Cash Flow (£m)
0	(103)	(103)
1	10	(103)+10=(93)
2	30	(93)+30=(63)
3	50	(63)+50=(13)
4	65	(13)+65=52

3 years + (Deficit £13m)/(Deficit £13m+Surplus £52m)=3 years and 2 months

Project B Payback Period

Year	Net Cash Flow (£m)	Cumulative Net Cash Flow (£m)
0	(115)	(115)

1	60	(115)+60=(55)
2	40	(55)+40=(15)
3	60	(15)+60=45
4	5	45+5=50

2 years +(Deficit £15)/(Deficit£15m+Surplus£45m)=2 years and 2.5 months

In addition to above calculation prove that considering payback period Project B is more profitable for Sainsbury's company because the positive surplus is generated quicker than in Project A.

As described by (Atrill and Mc Laney, 2008) payback method of financial investment has many advantages because of its simplicity, use of cash in oppose to accounting profit and it is also taking risk into account as earlier cash flows can provide more certainty for the business. However these method has also its disadvantages as it considers only cash flows and very little is mentioned about the overall project, it does not really deal with the risk and uncertainty of the project. Furthermore the cash flows arising after payback period are ignored in this type of forecasting .In addition this type of investment decision forecasting might not be sufficient for a large company as Sainsbury plc.

Net Present Value:

This method of investment decision making is considered by (Denzil Watson and Head, 2011) to be very sensible as it take into account all of the cost and benefits of each investment opportunity and makes a logical allowance for the timing of the costs and benefits. In case of Sainsbury's investment project it takes into account cost of capital or required rate of return, project cash flows that are occurring over the years and initial investment (See appendix E). In addition Net Present Values for projects A and B are calculated below:

	Project A	Project B
Net Present Value	£16.98m	£24.27m

The above calculation indicates that Net Present Values for both projects are positive therefore in addition to (Denzil Watson and Head, 2011) both will give a positive return greater than required rate of return. In case when both projects are positive (Denzil Watson and Head, 2011) suggests that project that offers higher return should be considered as better capital investment decision for the company. As mentioned by (Atrill and Mc Laney 2008) Net Present Value has many advantages in financial investments analyses in comparison to ARR and PP. Firstly according to the same authors it takes the account of time value of money. The whole of the relevant cash flow is taken to account. NVP is the only method of appraisal that considers the objectives of the business. In addition this type of method should be applied by Sainsbury's plc while considering the investment.

Internal Rate of Return IRR:

As described by (Denzil Watson and Head, 2011) this method of making investment decision is quite closely related to NVP. It also involves discounting future cash flows. The Internal Rate of Return is a discounted rate that when applied to future cash flows will produce an

NVP of zero. As stated by (Atrill and Mc Laney, 2008) it represents the yield from the investment opportunity.

The formula for IRR can be found in (Appendix F). For the given project the IRR calculates in the following way:

	Project A	Project B
Internal Rate of Return	14.4%	19.95%

In consideration of financial investment projects it is suggested in (Denzil Watson and Head, 2011) that a general rule in decision making is to accept all projects with IRR greater than company's cost of capital or target rate of return. In this case both projects seem to be profitable for the company. In addition to (Atrill and Mc Laney, 2008) the internal rate of return can be considered as the rate of growth that project is going to generate. Accordingly a project that indicates higher IRR should be considered as more valuable and will provide much better chance for company strong growth. As suggested by (Atrill and Mc Laney, 2008) the main disadvantage of this method in oppose to NPV is the fact that it does not correctly address the aspect of wealth generation as it always focus on percentage rate. In case of financial investment consideration for Sainsbury Plc both project A and B are similar in scale therefore this method of calculation indicates that project B will be more profitable for Sainsbury's plc strong growth.

In conclusion the most relevant forms of making the investment management decision by Sainsbury's plc are NVP combined with ARR and PP. Based on the above calculation project B will be more profitable for the company. Nevertheless in making the financial investment decision Sainsbury plc should also consider other external factors like taxation or inflation rate in order to produce an accurate forecast of the profitability of the projects.

Reference list

Atrill, P. and Maclaney, E. (2008). *Accounting and finance for non-specialists*. 6th ed. Harlow: Financial Times/Prentice Hall.

Avenir, R. (2012). *How to Have a Low Net Profit*. [online] Azcentral.com. Available at: <https://yourbusiness.azcentral.com/low-net-profit-8717.html> [Accessed 17 Jan. 2020].

CFI (2015). *You searched for profitability ratios - Corporate Finance Institute*. [online] Corporate Finance Institute. Available at: <https://corporatefinanceinstitute.com/search/profitability+ratios/> [Accessed 17 Jan. 2020].

Denzil Watson and Head, A. (2011). *Corporate finance : passnotes*. Harlow ; New York, Ny Financial Times Prentice Hall.

Kaplan (2012). *Liquidity analysis*. [online] Default. Available at: <https://kfknowledgebank.kaplan.co.uk/financial-reporting/interpretation-of-financial-statements/liquidity-analysis> [Accessed 17 Jan. 2020].

MarketLine (2019). *Sainsbury's Bank plc - Strategy, SWOT and Corporate Finance Report - Mar...* [online] Marketline.com. Available at: <https://store.marketline.com/report/ml1050130sa--sainsburys-bank-plc-strategy-swot-and-corporate-finance-report/> [Accessed 17 Jan. 2020].

Merlin Scott Associates Ltd (2020). *UK Food Retailers Sector Report - by Merlin Scott Associates*. [online] Industry-averages.co.uk. Available at: <https://www.industry-averages.co.uk/requestReportAccess?reportTitleId=797&reportTitle=Food%20Retailers> [Accessed 17 Jan. 2020].

Onita, L. (2019). *Sainsbury's beats rivals in weak grocery market*. [online] The Telegraph. Available at: <https://www.telegraph.co.uk/business/2019/08/20/sainsburys-beats-rivals-weak-grocery-market/> [Accessed 13 Jan. 2020].

Sainsbury's (2015). *2015*. [online] Sainsburys.co.uk. Available at: <https://www.about.sainsburys.co.uk/making-a-difference/our-values/reports-policies-and-standards/2015> [Accessed 17 Jan. 2020].

Sainsbury's (2016). *Sainsbury's Bank plc Annual Report and Financial Statements for the year ended Net interest margin Strategic Report 1 Business model 2 Market context 3 Strategy 3 Business review 4 Key performance indicators 6 Principal risks and uncertainties 8 Risk management and governance 11 Financial review Directors Report*. [online] Available at: http://www.j-sainsbury.co.uk/~/_media/Files/S/Sainsburys/documents/reports-and-presentations/2016/sainsburys-bank-ar-2016-final-0206.pdf [Accessed 17 Jan. 2020].

Sainsbury's (2017). *Annual Report and Financial Statements 2017 Live Well For Less*.

[online] Available at: <https://www.about.sainsburys.co.uk/~media/Files/S/Sainsburys/pdf-downloads/sainsburys-ar-2017-strategic-report>.

Sainsbury's (2018). *Live Well For Less Annual Report and Financial Statements 2018*.

[online] Available at:

<https://www.about.sainsburys.co.uk/~media/Files/S/Sainsburys/documents/reports-and-presentations/annual-reports/sainsburys-ar-2018-full-report.pdf>.

Sainsbury's (2019). *Title*. [online] Sainsburys.co.uk. Available at:

<https://www.about.sainsburys.co.uk/investors/annual-report-2019>.

TESCO (2019). *Annual Report 2019*. [online] Tesco PLC. Available at:

<https://www.tescopl.com/investors/reports-results-and-presentations/annual-report-2019/>.

Appendices and Formulas

A. Profitability Ratios:

Gross profit Margin= (Gross Profit/Sales)x100

Net Profit Margin= (Net Income/Sales)x100

Operating Profit Margin=(Operating Profit/Sales)x100

	Revenue	Cost of Sales	Gross Profit Margin %
Sainsbury's 2019	29	27	6.919019547
Sainsbury's 2018	28.456	26.574	6.613719426
Sainsbury's 2017	26.224	24.59	6.230933496
Sainsbury's 2016	23.506	22.05	6.194163192
Sainsbury's 2015	23.775	22.567	5.080967403
TESCO 2019	63.911	59.695	6.596673499

	Operating Profit	Revenue	Operating Profit Margin %
Sainsbury's 2019	312	29,007	1.075602441
Sainsbury's 2018	518	28,456	1.820354231
Sainsbury's 2017	642	26,224	2.448139109
Sainsbury's 2016	707	23,506	3.007742704
Sainsbury's 2015	81	23,775	0.340694006
TESCO 2019	2,206	63,911	3.451674986

	Net Profit	Total Revenue	Net Profit Margin %
Sainsbury's 2019	239	29,007	0.823939049
Sainsbury's 2018	409	28,456	1.437306719
Sainsbury's 2017	503	26,224	1.918090299
Sainsbury's 2016	548	23,506	2.331319663
Sainsbury's 2015	72	23,775	0.302839117
TESCO 2019	1,716	63,911	2.684983806

B. Liquidity Ratios

Current Ratio=Current Assets/Current Liabilities

Acid Test Ratio=(Current Assets – Inventory)/Current Liabilities

	Current Assets	Current Liab	Current Ratio			
Sainsburys 2019	7581	11417	0.66400981			
Sainsburys 2018	7857	10302	0.762667443			
Sainsburys 2017	6312	8573	0.736265018			
Sainsburys 2016	4413	6720	0.656696429			
Sainsburys 2015	4421	6923	0.638595984			
TESCO 2019	12570	20680	0.607833656			
	Current Assets	Inventories	Current Assets Excl	Current Liabilities	Acid Test Ratio	
Sainsburys 2019	7581	1929	5652	11417	0.49505	
Sainsburys 2018	7857	1810	6047	10302	0.58697	
Sainsburys 2017	6312	1775	4537	8573	0.52922	
Sainsburys 2016	4413	986	3427	6720	0.50997	
Sainsburys 2015	4421	997	3424	6923	0.49458	
TESCO 2019	12570	2617	9953	20680	0.48129	

C. Gearing Ratios:

Debt to Equity Ratio=Total Debt/ Total Equity

Debt to Capital Ratio=Total Debt/ (Total Equity- Total Debt)

	Short Term Borrowings	Long Term Borrowings	Total Borrowing	Total Equity	Debt to Equity Ratio
Sainsburys 2019	832	950	1782	8456	0.210737938
Sainsburys 2018	638	1602	2240	7411	0.302253407
Sainsburys 2017	172	2039	2211	6872	0.321740396
Sainsburys 2016	223	2190	2413	6365	0.379104478
Sainsburys 2015	260	2506	2766	5539	0.499368117
TESCO 2019	1599	5673	7272	14834	0.490225158
	Total Borrowings	Total Equity	Sum TB and TE	Debt to Capital Ratio	
Sainsburys 2019	1782	8456	10238	0.174057433	
Sainsburys 2018	2240	7411	9651	0.2321003	
Sainsburys 2017	2211	6872	9083	0.243421777	
Sainsburys 2016	2413	6365	8778	0.274891775	
Sainsburys 2015	2766	5539	8305	0.333052378	
TESCO 2019	7272	14834	22106	0.328960463	

D. Efficiency Ratios

Assets Turnover=Sales/Total Assets

Fixed assets Turnover=Sales/Fixed Assets

	Sales	Total Assets	Assets Turnover
Sainsbury's 2019	29,007	23,541	1.232190646
Sainsbury's 2018	28,456	22,001	1.293395755
Sainsbury's 2017	26,224	19,737	1.328672037
Sainsbury's 2016	23,506	16,973	1.384905438
Sainsbury's 2015	23,775	16,537	1.437685191
TESCO 2019	63,911	49,047	1.303056252

	Sales	Fixed Assets	Fixed Assets Turnover
Sainsbury's 2019	29,007	9,708	2.987948084
Sainsbury's 2018	28,456	9,898	2.874924227
Sainsbury's 2017	26,224	10,006	2.620827503
Sainsbury's 2016	23,506	9,764	2.407414994
Sainsbury's 2015	23,775	9,648	2.464241294
TESCO 2019	63,911	19,023	3.359669873

E.Net Present Value Formula:

- NPV is given by:

$$-I_0 + \frac{C_1}{(1+r)} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} + \dots + \frac{C_n}{(1+r)^n}$$

Where:

- I_0 is the initial investment
- $C_1, C_2, \dots, C_n$ are the project cash flows occurring in years 1, 2, . . . n
- r is the cost of capital or required rate of return.

F. Internal rate of return Formula

$$IRR = R_1 + \frac{NPV_1}{NPV_1 - NPV_2} * (R_2 - R_1)$$