

FINANCIAL ANALYTICS: A FOCUS ON THE MARKETING STRATEGIES OF SELECTED MANUFACTURING FIRMS LISTED ON NIGERIAN EXCHANGE GROUP

ADEBOLA ABASS JABAR^{1*}, ADEDURO ADESOLA OGUNMAKIN² and IFE FIYINFOLU AJEPE³

¹Department of Accounting, Afe Babalola University Ado-Ekiti (ABUAD), Ado-Ekiti, Nigeria.

*Corresponding author E-mail: bolajabar@abuad.edu.ng

²Department of Accounting, Ekiti State University (EKSU), Ado-Ekiti, Nigeria.

³Department of Languages & Literary Studies, Afe Babalola University Ado-Ekiti (ABUAD), Ado-Ekiti, Nigeria.

Abstract

This study conducted the financial analytics of the marketing strategies adopted by firms listed on Nigerian Exchange. Secondary data used were collated from the annual reports and accounts of sampled manufacturing firms namely; Unilever Plc and Cadbury Nigeria Plc which were analysed using binary logistic regression. Variables used included Profit after tax, turnover, research and development, brand marketing, sales revenue, profit after tax, selling & distribution expenses and administrative expenses. Turnover had a positive but insignificant effect on organizational performance of Unilever Nigeria plc (13.773, $p=0.172>0.05$); research and development had positive but insignificant effect on organizational performance of Unilever Nigeria Plc (1.215, $p=0.586>0.05$); brand marketing had insignificant positive effect on organizational performance of Unilever Nigeria Plc. In relation to Cadbury Plc, revenue had a positive impact on organizational performance of Cadbury Nigeria Plc (32.370, $p=0.097<0.10$); selling and distribution expenses exerted a negative and significant effect on Cadbury Nigeria Plc (-14.082, $p=0.072<0.10$); administrative expenses had a negative and insignificant effect on the performance of Cadbury Nigeria Plc (-0.114, $p=0.979<0.10$). The study thus concluded that turnover, research and development and brand marketing have the capacity to enhance the performance of manufacturing firms listed on Nigerian exchange. It is therefore recommended that management should always employ promotional tools, improve the quality of products brands and adopt effective market segmentation strategies that would enhance their financial performance. Also, overhead expenses in respect of administrative and selling and distribution activities should be properly controlled.

Keywords: Financial analytics, marketing strategies, performance, manufacturing firms

1. INTRODUCTION

Undoubtedly, there is a shift in business models all over the world occasioned by globalization, international trade agreements between countries, bilateral agreements, advancement in technologies, emergence of fintech companies etc. Business processes for large companies have becoming more complex due to the various transactions undertaking by these companies in terms of financing, mergers and acquisition, strategic partnership and investments arrangement. The rapid changes in business models have led to the need for a more robust technological infrastructure by firms that can support large volume transactions in real time. The complex nature of transactions involved by companies makes lots of financial data available which require in-depth analysis for timely and effective decision making. Parsons (2021) considers financial analysis as a review of framework to analyse performance, assess

your goals, and make adjustments to forecasts and strategy based on actual results. The in-depth analysis of companies' financial data is financial analytics. Bernstein (2019) noted that financial analytics provides access to more accurate and detailed financial information of the organization so as to take action that can improve business performance. Financial analytics has its effect on all parts of the business as it plays a very important role in calculating the profit of a business. Financial analytics focuses on key aspects of business process that will ensure sustainability of companies. Marketing strategies is an important aspect of firms' operations. It is the lifeline of the businesses. Woolley (2017) describes marketing as a combination of science and art, strategy and creativity. Manufacturing firms need to develop strategies and plans that would ensure wide circulation of products by increasing market coverage which would in turn lead to increased profitability. The use of financial analytics in marketing would help firms to understand the impact of their decisions in respect of marketing strategies adopted on the financial results of the company. This employs financial analytics to evaluate the marketing strategies of Unilever Plc and Cadbury Plc listed in the consumer goods sector of Nigerian Exchange GROUP (NGX).

1.1 Overview of Unilever Plc and Cadbury Nigeria Plc

Unilever Plc is a multinational corporation which was established in Nigeria around 1923. The company specializes in producing household goods. In year 2014, the company was adjudged one of the most profitable companies in Nigeria. This could be linked to its execution of suitable marketing strategies in its operational activities. As a result of its effective formulation and implementation of marketing strategy, it has risen to become one of the country's top manufacturing companies. Unilever Plc brand of products enhances customers' patronage. The products of the company are well priced in such a way as to enhance customers' patronage and satisfaction. The marketing strategies employed by the company have equally been effective as confirmed by the reported revenue, operating and net income.

Cadbury Plc is also a leading multinational firm in Nigeria. It was incorporated in 1965 to produce dairy products for general consumption. The products are in two segments namely; food drinks and confectionery, and intermediate Cocoa Products. Among other firms in the consumer goods section of the manufacturing industry in Nigeria, Cadbury Nigeria Plc stands out in terms of market share, sales volume, profitability, number of employees and contributions to the country's gross domestic product (GDP). This can be attributed to its marketing strategies in terms of market segmentation, market targeting and market positioning. Cadbury Nigeria Plc segments its market to cater for all classes of customers which cover products and price discriminations for diverse group of customers. The marketing positioning strategy of Cadbury Nigeria Plc is by uniquely branding its products in terms of product pricing, use and application. Additionally, the market targeting adopted by Cadbury Nigeria Plc has helped in price fixing, promotion and distribution network.

2. MARKETING FINANCIAL ANALYSIS

Financial analytics in marketing considers the effect of revenue and expenses associated with marketing activities on firm's financial performance. A core element of the marketing plan is financial impact of the activities. Marketing strategies depend on financial analysis to model and project future results based on historical data and assumptions. According to Carter, MacDonald and Cheng (1997), financial analytics have four main functions namely; gauging how well marketing strategy is working by conducting situation analysis, evaluating marketing decision alternatives, developing plans for the future, and controlling activities on a short term or-day to-day basis. These functions can be depicted diagrammatically as shown in figure 1.

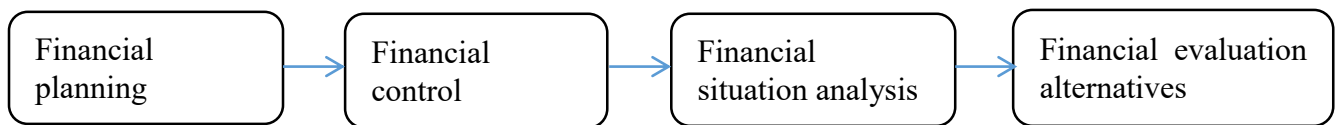


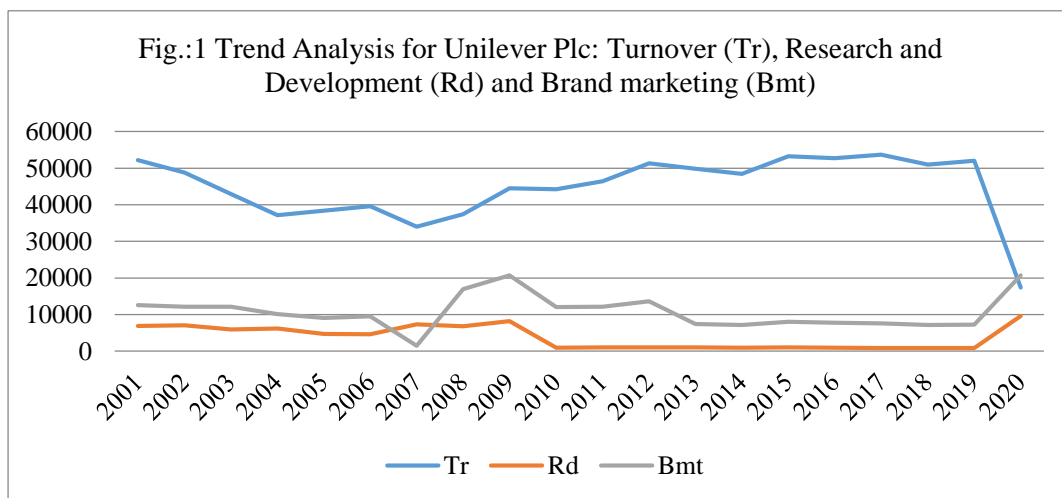
Figure1: Marketing financial analysis circle

Source: Carter, MacDonald and Cheng (1997)

3. MARKETING DATASETS: UNILEVER PLC AND CADBURY NIGERIA PLC

The marketing data sets used was obtained from the audited financial statements spanning over a period of 20 years (2001 – 2020). Data for Unilever Plc covered turnover and researcher and development and brand marketing. Data for Cadbury Plc covered sales revenue, Selling & Distribution Expenses and Administrative expenses. Dataset for the two companies in respect of profit after tax was measured in a binary form by using 1 to denote increase and 0 where it was otherwise.

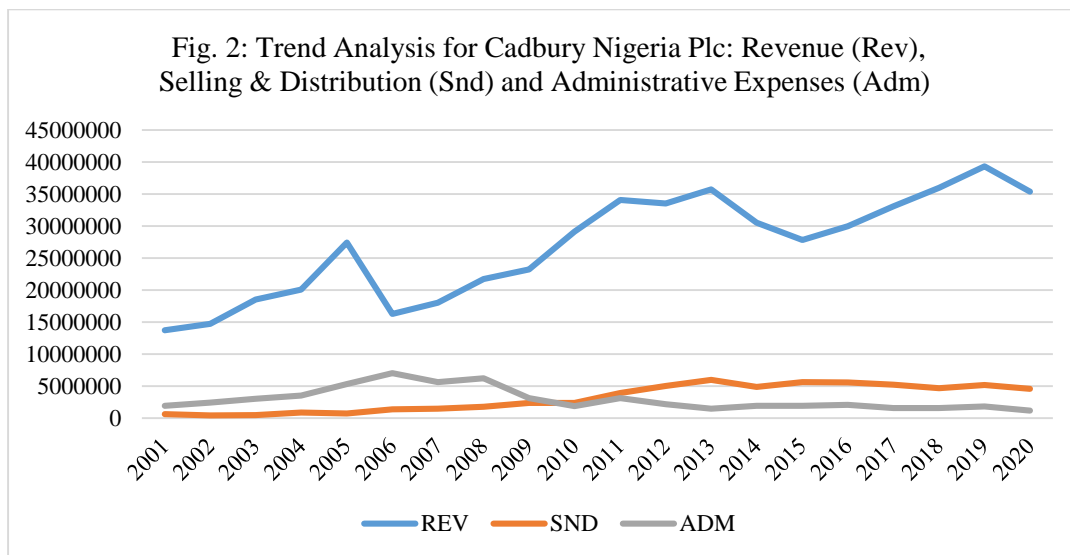
Unilever Plc: Trend analysis for revenue, selling and distribution expenses and admin expenses



From the trend analysis in figure 1, it could be deduced that from the base year, 2001, the

turnover (Tr) was on the decline till 2004 after which it steadily increased till 2015. Also, it oscillated between 2016 and 2019 before it declining sharply from 2019 till 2020. This could be attributed to changes in price of commodities and change in taste of customers. Also, the research and development (Rd) reduced gradually from 2001 till 2006 and then declined sharply from 2009 till 2010. This might be due to certain changes in the operations of the firm. Brand marketing (Bmt) expenses also trended down from 2001 till 2007 before going up sharply till 2009 after which it declined till 2013. It then further trended up sharply from 2019 till 2020. This could be attributed to change in taste of customers during the period covered.

Cadbury Plc: Trend analysis of revenue, selling & distribution expenses and admin expenses



Going by the trend analysis of revenue (Rev) in figure 2, there was an upward movement from 2001 till 2005 but declined sharply in 2006. Also, it could be noted that revenue was on the increase from 2007 to 2011 and from 2011 till 2019 before nose diving from 2019 till 2020. This could be attributed to instability in the country’s economy. Also, administrative (Adm) expenses incurred by the Unilever, increased gradually from 2001 till 2006 before it maintain a cyclical trend from 2006 till 2011, before it declining gently from 2012 till 2020. This reduction in administrative expenses might be due to the effort of the management to improve its efficiency in its operation. Furthermore, selling and distribution (Snd) expenses increased from 2001, up till 2013 before declining gently from 2015 till 2020. This could be due to management efficiency in minimising cost related to selling and distribution during the period covered.

4. METHODOLOGY

The study employed binary logistic regression analysis to analysis the financial data of the sampled listed manufacturing firms. Regression analysis is suitable for measuring firms’ growth rate, making forecast and to measure relationship among study variables. Binary

logistic regression analysis was considered appropriate since the study focus was to empirically determine the contribution of revenue and expenses associated with marketing activities to selected firms' financial performance. Secondary data was sourced from the audited annual reports and accounts of Unilever Plc and Cadbury Plc. The data obtained were analysed based on the specified model. In the case of Unilever Plc, the study considered the effect of turnover, researcher and development cost and brand marketing cost on the performance of the selected firms as critical factor to the firms' marketing strategies. The key variables considered in the case of Cadbury Plc were profit after tax, sales revenue, selling & distribution expenses and administrative expenses.

Profit after Tax is the outcome variable and it was measured categorically. It was "1" if there was an increase in PAT for a particular year and "0" if otherwise while all the predictors were captured quantitatively as collated from the financial statements.

The model for Unilever Plcis given thus:

$$\text{Perf}_{\text{pat}} = f(\text{Tr}, \text{Rd}, \text{Bmt}) \quad [1]$$

$$\text{Perf}_{\text{pat}} = \alpha_0 + \alpha_1\text{Tr} + \alpha_2\text{Rd} + \alpha_3\text{Bmt} + \varepsilon \quad [2]$$

Where:

Perf_{pat} is Profit after tax; Tr is Turnover; Rd is Research & Development; and Bmt is Brand Marketing; α_0 = Intercept; $\alpha_1 - \alpha_3$ = Coefficient of independent variables; ε = Error term.

The model for Unilever Plc is given thus:

$$\text{Perf}_{\text{pat}} = f(\text{Rev}, \text{Snd}, \text{Adm}) \quad [3]$$

$$\text{Perf}_{\text{pat}} = \alpha_0 + \alpha_1\text{Rev} + \alpha_2\text{Snd} + \alpha_3\text{Adm} + \varepsilon \quad [4]$$

Where;

Perf_{pat} is Profit after Tax; Rv is Revenue; Sd is Selling and Distribution; &Adm is Administrative Expenses; α_0 = Intercept; $\alpha_1 - \alpha_3$ = Coefficient of independent variables; ε = Error term.

5. DATA ANALYSIS AND DISCUSSION OF FINDINGS

5.1 Binary Logistic Regression Analysis

The binary logistic regression analysis for Unilever Plc showed that Nagelkerke R-Square was 0.347. This connote that 34.7% of the variation in financial performance of Unilever Plc can be explained by all the explanatory variables used in the study.

Table 1: Variables in the Equation - Unilever Plc

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1 ^a	LTr	13.773	10.077	1.868	1	.172	958572.425
	LRd	1.215	2.230	.297	1	.586	3.371
	LBmt	2.993	3.115	.923	1	.337	19.938
	Constant	-78.666	54.809	2.060	1	.151	.000

a. Variable(s) entered on step 1: LTr, LRd, LBmt.

Source: Author's computation, 2022

Table 1 shows that the predictive results of all the explanatory variables from the logistic regression indicates that turnover (13.773, $p=0.172 > 0.05$), research and development (1.215, $p=0.586 > 0.05$) and brand marketing exert positive but insignificant effect on profit after tax of Unilever Nigeria Plc (2.993, $p=0.337 > 0.05$). The binary logistic regression analysis conducted for Cadbury Nigeria Plc revealed that Nagelkerke R-Square was 0.466. This indicated that 46.6% of the variation in financial performance of Cadbury Nigeria Plc can be explained by all the explanatory variables used in the study.

Table 2: Variables in the Equation- Cadbury Nigeria Plc

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	LRv	32.370	19.479	2.761	1	.097	114294521877578.660
	LSd	-14.082	7.838	3.228	1	.072	.000
	LAdm	-.114	4.421	.001	1	.979	.892
	Constant	-146.744	118.424	1.535	1	.215	.000

a. Variable(s) entered on step 1: LRv, LSd, LAdm.

Source: Author's computation, 2022

Presented in the variables in Table 2 are the predictive results of all the predictor variables carried out by logistic regression. The result shows that revenue has a positive and significant effect on profit after tax of Cadbury Nigeria Plc to the tune of 32.370 ($p=0.097 < 0.10$). Also, selling and distribution expenses and administrative expenses have a negative effect on profit after tax of Cadbury Nigeria Plc to the tune of -14.082 and -0.114 respectively. However, the negative effect was only significant for selling and distribution expenses to the tune of 0.072, as against the probability value of administrative expenses given to be 0.979.

Table 3: Test of Hypotheses: Unilever Plc and Cadbury Plc

Null Hypothesis	Coefficient estimate	Probability	Remark
H₀₁ : Turnover has no significant effect on performance of Unilever Plc.	13.773	0.172	Accept H ₀
H₀₂ : Research & development has no significant effect on performance of Unilever Plc.	1.215	0.586	Accept H ₀
H₀₃ : Brand marketing has no significant effect on performance of Unilever Plc	2.993	0.337	Accept H ₀
H₀₄ : Sales revenue has no significant effect on performance of Cadbury Plc	32.370	0.097	Accepts H ₀
H₀₅ : Selling and distribution expenses has no significant effect on performance of Cadbury Plc	-14.082	0.072	Accepts H ₀
H₀₆ : Administrative expenses has no significant effect on performance of Cadbury Plc	-0.114	0.979	Reject H ₀

Source: Author's computation, 2022

5.2 Discussion of findings

From the foregoing, it can be noted that turnover has a positive but insignificant effect on performance of Unilever Nigeria Plc (13.773, $p=0.172 > 0.05$) indicating that a 1% increase in turnover would result to 13.77% increase in the performance of Unilever Nigeria Plc. This lends credence to the postulation that increase in sales is directly proportional to earnings. However, the insignificance noted could be linked to the use of ineffective promotional materials. This result differs from that of Ayaydin and Karaaslan (2014) which noted significant contribution of turnover to financial performance of manufacturing firms in Turkey. The research and development showed a positive but insignificant effect on performance of Unilever Nigeria Plc (1.215, $p=0.586 > 0.05$) connoting that an increase in research and development would lead to a rise in performance of Unilever Nigeria Plc. Its insignificance could be due to the firm's minimal effort in the area of research and development. This finding agreed with the position of Kirachi, Celikay and Celikay (2016) which noted that a positive but insignificant relationship exists between research and development and firms' performance. Also, brand marketing had insignificant but positive effect on performance of Unilever Nigeria Plc. This finding agreed with the position of Abiodun and Kolade (2020).

In relation to Cadbury Plc, revenue showed a positive effect on performance of Cadbury Nigeria Plc (32.370, $p=0.097 < 0.10$) indicating that a 1% increase in revenue of Cadbury Nigeria Plc would significantly increase profitability of the firm. This could be due to suitability in market segmentation adopted by the firm for its products as well as management efficiency. This agreed with the findings of William and Michael (1995) which posited that sales growth is the most significant growth variable affecting financial performance. Selling and distribution expenses was found to exert negative but significant effect on Cadbury Nigeria Plc (-14.082, $p=0.072 < 0.10$) indicating that selling and distribution expenses has the capacity to reduce the company's performance. This agreed with the study conducted by Ojo (2018)

which stated that if expenses incurred are not well managed, it will have a negative effect on the performance level of organizations. Also, findings from the study noted that administrative expenses has a negative and insignificant effect on the performance of Cadbury Nigeria Plc in terms of profit after tax for the period covered by this study (-0.114, $p=0.979 < 0.10$) connoting that the performance of Cadbury Nigeria Plc can be seriously affected by administrative expenses.

6. CONCLUSIONS AND RECOMMENDATIONS

Marketing strategies is an integral part of business plan. It sets out the plans the various marketing activities of a firm. From the foregoing and based on the empirical findings, it is clear that financial analytics is a veritable tool in designing and implementing effective marketing strategies. The study therefore concludes that conducting financial analytics of marketing strategies would go a long way in enhancing performance of manufacturing firms listed on the Nigerian exchange. The study thus recommends that management of manufacturing firms listed on Nigerian exchange group should always employ promotional tools, improve the quality of products brands, and adopt effective market segmentation strategies that would enhance their financial performance. Also, overhead expenses in respect of administrative and selling and distribution activities should be properly controlled.

Acknowledgments

We are deeply grateful to all those who contributed to the success of this research work. First and foremost, we thank our Chancellor, Aare Afe Babalola, for his constant support, and encouragement towards quality scholarly research. We express our sincere appreciation to the Management of Afe Babalola University Ado-Ekiti (ABUAD) for providing the financial support needed to publish the research paper. Our heartfelt gratitude goes to all participants in the study, who contributed in no small measure to the success of the research.

Authors' Contribution

Adebola A. Jabar developed the research focus, carried out the conceptual and empirical reviews, obtained the data used in the study and performed the data analysis. Adeduro A. Ogunmakin supervised the research work and also reviewed the study to ensure that the study objective was achieved. Ife F. Ajepe did editorial review of the research study.

References

1. Abiodun, E. A. & Kolade, O. G. (2020). Marketing strategies impact on organizational performance. *International Journal of Scientific and Technology*, 9(1), 1758-1762.
2. Ayaydin, H. & Karaaslan, I. (2014). The effects of research and development investment on firms' financial performance; evidence from manufacturing firms in Turkey. *The journal of knowledge economy and knowledge management*, 9(1), 43-59.
3. Bernstein, C. (2019). What is Financial Analytics and Why is it Important?, TechTarget,
4. <https://www.searcherp.techtarget.com/definition/financial-analytics>
5. Carter, S., MacDonald, N. J., & Cheng, D. C. (1997). *Basic finance for marketers* (Vol. 1). Food & Agriculture Org.
6. Kirachi, M., Celikay, F. & Celikay, D. (2016). The effects of firms' research and development expenditures

- on profitability; an analysis with panel effect correction model for Turkey. International Journal of Business and social science, 7(5), 233-240.
7. Ojo, O. D. (2018). Predictors of organizational performance of small and medium scale enterprises
 8. in Nigeria. Unpublished Thesis, University of Ilorin, Kwara State.
 9. Parsons, N. (2021). How to Conduct a Strategic Financial Analysis for Your Business, Liveplan,
 10. <https://www.liveplan.com/blog/financial-statment-analysis>
 11. William, C. H. & Michael, E. B. (1995). The impact of sales and income growth on profitability and
 12. market value measures in actual and simulated industries. Developments in Business Simulation & Experiential Exercises, 22, 56-62.
 13. Woolley, D. (2017). The importance of financial analysis in determining marketing priorities,
 14. Global marketing management consultants, <https://www.trinityp3.com/2017/02/financial-analysis-determining-marketing-priorities>

Appendix

Table 1: Datasets for Unilever Plc and Cadbury Nigeria Plc (2001 – 2020)

Company	Year	PAT	TUR	RND	BM	Log TUR	Log RND	Log BM
Unilever Plc	2001	1	52206	6868	12605	4.72	3.84	4.1
	2002	1	48760	7029	12185	4.69	3.85	4.09
	2003	1	42942	5922	12185	4.63	3.77	4.09
	2004	1	37168	6220	10096	4.57	3.79	4
	2005	1	38401	4710	9078	4.58	3.67	3.96
	2006	1	39642	4655	9486	4.6	3.67	3.98
	2007	0	33990	7375	1484	4.53	3.87	3.17
	2008	0	37377	6852	16919	4.57	3.84	4.23
	2009	1	44481	8251	20758	4.65	3.92	4.32
	2010	1	44262	928	12033	4.65	2.97	4.08
	2011	1	46467	1009	12104	4.67	3	4.08
	2012	1	51324	1003	13632	4.71	3	4.13
	2013	1	49797	1040	7383	4.7	3.02	3.87
	2014	1	48436	955	7166	4.69	2.98	3.86
	2015	0	53272	1005	8003	4.73	3	3.9
	2016	1	52713	978	7731	4.72	2.99	3.89
	2017	1	53715	900	7575	4.73	2.95	3.88
	2018	1	50982	900	7150	4.71	2.95	3.85
	2019	0	51980	840	7272	4.72	2.92	3.86
	2020	0	17395	9629	20752	4.24	3.98	4.32

Company	Year	PAT	REV	SND	ADM	Log REV	Log SND	Log ADM
Cadbury Plc	2001	1	13744200	621160	1909714	7.14	5.79	6.28
	2002	1	14752198	431197	2455624	7.17	5.63	6.39
	2003	1	18550884	501487	3041378	7.27	5.7	6.48
	2004	1	20083559	890847	3527990	7.3	5.95	6.55
	2005	1	27444419	755246	5331014	7.44	5.88	6.73
	2006	0	16297981	1396182	7053695	7.21	6.14	6.85
	2007	1	18017952	1480494	5640750	7.26	6.17	6.75
	2008	1	21729161	1804572	6251018	7.34	6.26	6.8
	2009	0	23240611	2406650	3118730	7.37	6.38	6.49
	2010	1	29116672	2402770	1903320	7.46	6.38	6.28
	2011	1	34110547	3935696	3143973	7.53	6.6	6.5
	2012	1	33550501	5030985	2174326	7.53	6.7	6.34
	2013	0	35760753	5970810	1467631	7.55	6.78	6.17
	2014	1	30518586	4878200	1954094	7.48	6.69	6.29
	2015	0	27825194	5621160	1909714	7.44	6.75	6.28
	2016	1	29979410	5595702	2073988	7.48	6.75	6.32
	2017	1	33079446	5228425	1594681	7.52	6.72	6.2
	2018	1	35973479	4706544	1560657	7.56	6.67	6.19
	2019	1	39326807	5208925	1819571	7.59	6.72	6.26
	2020	1	35407323	4577611	1160498	7.55	6.66	6.06

Source: Annual Reports of Unilever Plc and Cadbury (2001-2020)