

COMPETITOR COST ASSESSMENT AND PROFITABILITY OF QUOTED NIGERIAN MANUFACTURING FIRMS: A CRITICAL REGRESSION

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ABSTRACT: *Competitor accounting involves exploring markets, formulating strategies, and establishing market patterns for sustained industry leadership. This study examined the effect of competitor cost assessment (component of competitor accounting) on the profitability (net profit margin and return on equity) of quoted manufacturing firms in Nigeria. An ex-post facto design was adopted, with a sample of 92 out of 120 firms, drawn using TaroYamene formula and random numbers table. Financial data of the firms for the period 2012-2016, published in the Nigerian Stock Exchange Fact Book, were collected and analysed using descriptive and inferential tools; aided by Statistical Package for Social Sciences (SPSS) version 22. The results revealed that competitor cost assessment significantly affects the net profit margin (firm average index = 19.63% > industry average of 5%) and the return on equity (firm average index = 20.02% > industry average of 5%). The inferential statistics are significant at 95% confidence level ($D-W = 2.299$, $R^2 = 0.42$, $p\text{-value} = 0.00 < 0.05$). The study, therefore, concludes that competitor cost assessment significantly affects the profitability of quoted manufacturing companies in Nigeria. Based on this conclusion, it is recommended that managers of the firms should ensure efficient competitor cost analysis for sustained cost leadership and enhanced financial performance. Also, a special unit anchored by professionals in the accounts and marketing departments of the firms should be charged with the responsibility of conducting continuous competitor accounting assessment, in line with financial reporting best practices, to strategically promote business growth and keep pace with trends in the industry.*

KEYWORDS: business profitability, competitor cost accounting, quoted manufacturing firms.

INTRODUCTION

Strategic corporate financial performance analysis involves evaluation of key business indicator trends and comparing financial ratios across companies for competitive advantage. Thus, to enhance the financial performance of manufacturing companies in Nigeria critically advocates adoption of the marketing concept which underscores customer satisfaction (Kotler & Armstrong, 2009). This commitment spurs firms to consider new business opportunities, modify channels of distribution, and develop new products in order to maximize profitability.

However, besides the marketing concept, the advancement of manufacturing firms equally depends on effective use of information. According to Rangone (1997), for firms to make good decisions and sustain financial health, their managers are expected to use information on relevant factors from the environment, especially major competitors and the frameworks necessary for achieving strategic goals and enhancing corporate effectiveness.

Furthermore, it is recognized that firms with better information and better disposition to use the information tend to have better decisions; and by this, they stay ahead of competitors. These developments pose diverse pressures on the firms to set their competitive priorities, cost reduction and quality delivery options, as well as flexibility, productivity and innovation in new product features (Alsoboa & Alduhiate, 2013). In this regard, ignorance of one's own competitive strengths and weaknesses results in low economic performance (Chiekezie, Egbunike & Odum, 2014). Sound knowledge of competitors and understanding of their competitive position promote organization's existence and profitability through sustainable competitive advantage. This is the realization that gave rise to competitor accounting. Heinen and Hoffman (2005) posited that competitor accounting has to do with analysis of information relating to competitors, strategically focusing on marketing, production, finance, and human resources needed to develop and monitor competitive strategies for enhanced financial performance.

The competitor accounting process involves critical analysis of accounting information about competitors in order to identify their weaknesses and take advantage of them to improve performance of the firm. Competitor accounting system generates reliable information for strategy formulation so as to cope with competition. The formulation and implementation of the strategies depend on effective information system (Tampidok, 2004). Associated with this is management control system, of which firms are fashioned to feature strategies that drive the achievement and sustenance of competitive advantage and superior corporate performance (Simons, 1990; Dent, 1990). From the fore-going, competitor accounting is fundamental to the pursuit of competitive advantage which is critical to a firm's performance. Barney (2002) contends that competitive advantage may be tied to a firm's performance, specially earning superior financial returns within the industry in the long-run, with competitive advantage over its rivals. According to Simmonds (1981), competitive advantage is a function of firm's superiority relative to competitors. It indicates the essence of competitor accounting and the justification for considerable research attention. Studies which emphasize the significance of competitor accounting in corporate strategy formulation and business financial decisions include those conducted by Malinic, Jovanovic and Jankovic (2012) and Akenbor and Okoye (2011).

The general purpose of this study, therefore, is to investigate the effect of competitor cost assessment (component of competitor accounting) on the profitability of quoted manufacturing companies in Nigeria. The specific objectives are to:

- i. determine the extent to which competitor cost assessment affects net profit margin of quoted manufacturing companies in Nigeria; and
- ii. ascertain the extent to which competitor cost assessment affects return on equity of quoted manufacturing companies in Nigeria.

In view of the objectives, the following hypotheses are formulated:

Ho₁: Competitor cost assessment does not significantly affect the net profit margin of quoted manufacturing companies in Nigeria; and

Ho₂: Competitor cost assessment does not significantly affect the return on equity of quoted manufacturing companies in Nigeria.

LITERATURE REVIEW

In business, a competitor is a company operating in the same industry or similar industry, which offers similar product or service. Thus, a firm's strategy is likely to be more successful if it develops a strategy for dealing with competitors, as they compete for its customers' patronage. Kotler and Armstrong (2009) identified the key types of competitors to include brand, industry, and form competitors, among others. Brand competitors, the most obvious, are similar in size and offer similar products to the customers. The industry competitors also offer similar products or services but differ in organization size, precise product type or target market. The form competitors offer products or services which fulfil the same customer needs, though the products or services are different in form or technology. From the above classifications, any other firm may be an actual or prospective competitor, but the biggest competitive threats are likely come from the firms that have same type of customers; those that have similar or lower-cost supply and distribution channels, those that have similar or superior technologies; and those whose target market in geographical or other terms significantly overlaps that of the firm. Competitor cost assessment refers to the provision of regularly updated feature of competitors' cost structures, as advocated by Bromwich (1990), Jones (1988), Porter (1980) and Simmonds (1981). There may be different sources of such information, including indirect sources such as physical observation, common suppliers or customers and ex-employees of competitors. The significant attention commanded by competitor cost assessment may result partially from the growing complexity in technological advancement (Guilding, 1999). The commitment associated with such investment and the implied pursuit of improved competitive position increase the need for competitor cost analysis. A systemic approach to the assessment involves appraising competitors' manufacturing activities, economies of scale, governmental relationships, and product technology (Jones, 1988). Regarding the concept of performance, Gan and Selah (2008) posited that it derives from the act of performing; which has to do with execution, accomplishment, or fulfilment. In a broader sense, accomplishment of a given task is measured against pre-set standards of accuracy, completeness, cost, and speed. Financial performance, thus, refers to the extent to which financial objectives are accomplished. It relates to the process of measuring the financial results of a firm's policies and operations; as well as firm's overall financial health in a given period of time. Financial statements are required for the analysis of financial performance, but they do not absolutely reveal all information relating to the financial operations of a firm. They furnish useful information which meaningfully highlights the profitability and financial soundness of a firm.

Financial performance analysis includes analysis and interpretation of financial statements in a manner that affords full diagnosis of the financial indicators. The process identifies the financial strengths and weaknesses of the firm by properly establishing relationships between items of the statements of financial position (balance sheet) and income (profit and loss account). Thus, financial analysts are mainly interested in assessing a firm's performance in terms of production and productivity, profitability, liquidity, working capital, fixed assets, fund

flow, and social responsibility (Adue, 2019). Some empirical studies have been conducted in the area of competitor cost assessment and other perspectives of competitor accounting over the years. Guilding (1999) examined the use and perceived usefulness of competitor - focused accounting in New Zealand companies. Five methods of competitor accounting were identified, with monitoring of competitive position featuring as the instrument of competitor accounting used most and regarded as most useful. Competitor cost assessment was found to be relatively seldom used, as the application frequency fell below medium value of the measurement scale. The three factors which mainly affect competitor-focused accounting adoption rates and perception of competitor-focused accounting usefulness in New Zealand companies include company size, competitive strategy and strategic mission.

Fleisher and Bensoussan (2002) examined the level of competitor accounting knowledge among chief executive officer (CEO) of selected Asian countries. Using questionnaire, which were administered on the CEO of 78 companies, the analysis of primary data revealed that CEO knowledge of competitor accounting among CEO of the selected companies in the Asia continent is very low. Subramanian and IsHak (1998) examined the relationship between a firm's competitor analysis and performance. Chi-square test of independence was used to test the relationship between the two variables. The results affirmed a relationship between profitability (measured by return on assets) and advanced competitor analysis system. This provides further evidence for the contingent relationship between the external environment (specifically, the competitor element of such environment), the organization internal processes, and performance of successful firms. Ward, Hewson and Srikanthan (1992) examined competitor cost assessment and decision making in selected companies in Sri Lanka. Using data collected from the financial statements of 81 companies, the findings revealed that competitor cost assessment significantly impacts decision making by managers for enhanced performance. Extending this research area of interest to the domestic scene, this study examines the effect of competitor cost assessment on the profitability of quoted manufacturing firms in Nigeria.

METHOD

The *ex-post facto* research design is adopted for this study, with a population comprising 120 manufacturing companies quoted on the Nigerian Stock Exchange (NSE). Using the Taro Yamene formula, the sample size is determined thus: $n = N/[1+N(e)^2]$

Where:

- n = Sample size
- N = Population (120 firms)
- e = Level of significance (0.05)

Substituting the relevant values:

$$n = 120/[1+120(0.05)^2] = 92 \text{ Companies}$$

Units of the sample frame are selected using simple random sampling technique, facilitated by table of random numbers. Thus, every manufacturing firm relating to the study population is given a number ranging from 1-120. Consequently, the 92 quoted manufacturing firms are determined by selecting 92 numbers containing three digits from the table of random numbers. The proxies operationalizing the variables are competitor cost assessment for competitor accounting, and profitability for financial performance. Financial performance refers to the

level of financial success recorded by the firm, measured in terms of profitability (return on equity, price – earnings ratio, among others). For this study, the specified indices are net profit margin and return on equity of the quoted manufacturing firms. Net profit margin is measured as ratio of net profit after tax to sales, while return on equity is measured as ratio of net profit after tax to shareholders' equity. The proxy for competitor cost assessment is operational efficiency of the firm, measured as ratio of sales to total assets. The financial data on the above operational variables cover the period, 2012-2016 (as featured in the Appendix).

The secondary data are subjected to descriptive and inferential analyses. The results of descriptive analysis are expressed using the mean scores and standard deviation. With the inferential analysis, the hypotheses are tested at 5% level of significance using regression method. The multiple regression analysis is used in determining the overall effect of the independent variables (competitors' costs assessment) on the dependent variable (net profit margin and return on assets). These computations associated with the analyses are aided by Statistical Package for Social Sciences (SPSS) version 22 (Adué, 2019). As adopted by Guiding, Cravens and Tayles (2000), relevant variables are featured for multiple regression purposes, as specified in the model functions below:

$$FP = f(CCA, CPM, CFSA) \dots (1)$$

$$FP = f[\mu_0 + b_1 CCA + b_2 CPM + b_3 CFSA + b_4 CS - - - - m_i] \dots (2)$$

Specifying in terms of the operational independent variables, the two models are:

$$NPM = f[\mu_0 + b_1 CCA] \dots (3)$$

$$ROE = f[\mu_0 + b_2 CCA] \dots (4)$$

Where: FP = Financial Performance

NPM = Net Profit Margin

ROE = Return on Equity

CCA = Competitor Costs Assessment

CPM = Competitive Position Monitoring

CFSA = Competitive Financial Statements Appraisal

CS = Competitive Strategy

μ = Regression Constant

b_1, b_2 = Regression Coefficients

m = Stochastic term

This model specification is formulated to concentrate and critically ascertain the effect of competitive cost assessment on the profitability (net profit margin and return on equity) of quoted manufacturing firms in Nigeria.

RESULTS

The descriptive results are presented in Tables 1, 2, and 3; specifically indicating frequencies, maximum and minimum mean values, and related statistics:

Table 1: Descriptive Statistics on Net Profit Margin

	N	Minimum	Maximum	Mean	Std. Deviation
NPM	92	.04	.76	.1963	.16418
Valid N (listwise)	92				

Source: SPSS Version 22 Window Output

In Table 1, the mean index is 0.1963, while the standard deviation is 0.16418; implying that average annual NPM of the firms is 19.63%, which is higher than the stipulated industry average of 5%.

Table 2: Descriptive Statistics on Return on Equity

	N	Minimum	Maximum	Mean	Std. Deviation
ROE	92	.06	.83	.2002	.13231
Valid N (listwise)	92				

Source: SPSS Version 22 Window Output

In Table 2, the mean index is 0.2002, while the standard deviation is 0.1323; implying that average annual ROE of the firms is 20.02%, which is higher than the stipulated industry average of 5%.

Table 3: Descriptive Statistics on Competitor Costs Assessment

	N	Minimum	Maximum	Mean	Std. Deviation
CCA	92	.56	5.74	1.5858	0.81066
Valid N (listwise)	92				

Source: SPSS Version 22 Window Output

The results in Table 3 indicate mean index of 1.5858 and standard deviation of 0.81066; implying that CCA of the firms is approximately 2.0, which is lower than the stipulated industry average of 9%.

As decision rule, a null hypothesis is rejected if the computed p-value is less than the critical value (0.05). The inferential results of the hypotheses test are contained in Tables 4 and 5:

Table 4: Competitor Cost Assessment and Profitability of the Firms

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.65 ^a	.42	.410	.16474	2.299

Source: SPSS Version 22 Window Output

Table 5: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	.175	.038		4.630	.001
CCA	.13	.021	.65	6.190	.000

Source: SPSS Version 22 Window Output

In Table 4, the Durbin-Watson (D-W) statistic is 2.299, which is within the acceptable region. It implies that there is no auto-correlation in the model; more so, the correlation coefficient (R) is 0.65, which suggests that there is a positive relationship between competitor cost assessment and net profit margin. The coefficient of determination (R^2) of 0.42 suggests that 42% of the variation in profitability is associated with changes in competitor cost assessment. In Table 5, the results indicate that a percentage change in competitor cost assessment accounts for 13% change in profitability. The p-value (0.000) and t-statistic (6.190) affirm the existence of a statistically significant relationship between the study variables.

DISCUSSION OF FINDINGS

The results of this study have established that competitor cost assessment significantly affects the profitability of quoted manufacturing companies in Nigeria. This is in line with the findings of Heinen and Hoffman (2005), Shecderbek (2010), and Akenbor and Okoye (2011). Heinen and Hoffman (2005) examined the effectiveness of competitor costs assessment and found that cost leaders who are aware of their cost leadership act differently. Informed cost leaders implement their strategic decision much more resolutely. They concluded that teams which are aware of their competitive strengths at cost level, indicate cost leadership as their fundamental strategic orientation. Shecderbek (2010) examined the effect of competitor cost assessment on the performance of manufacturing and service industries. The study involved 113 selected manufacturing and services firms in Sri Lanka, of which the findings revealed the prevalence of a strong assessment impact. The study by Akenbor and Okoye (2011) on competitor accounting and corporate profitability of manufacturing firms in Nigeria, which hypothesized that competitor accounting has no significant implication on profitability, revealed the existence of a positive and significant assessment impact.

The present study also established that competitor cost assessment significantly affects the return on equity of quoted manufacturing companies in Nigeria. This is in line with the findings of Subramanian and IsHak (1998) and Xender (2016). Subramanian and IsHak (1998) examined the relationship between competitor analysis systems and company performance. Their result indicated a relationship between profitability (measured by return on equity) and advanced competitor analysis system. Thus, better performing firms gain competitive advantage by using advanced monitoring systems. The study by Xender (2016), which examined the relationship between competitor cost analysis and financial performance (return on equity) of banks in New Jersey, equally revealed the existence of a positive relationship between the variables.

CONCLUSION AND RECOMMENDATIONS

Competitor accounting, of which competitor cost assessment is a critical component, has to do with the provision of regular projection of competitors' cost structures, to enable firms cope with growing technological complexity and industrial competitiveness. By this, knowledge of competitive strengths at the cost level influences the strategic actions of decision makers. As they drive the strategies, knowledge of competitive strength at the cost level leads to better corporate performance. Thus, the greater success of cost leaders who are aware of their competitive advantage is as result of greater commitment to the implementation of their strategy. In contrast, decision makers in the same favourable cost position, but unaware of their strengths at the cost level, do not recognize their strategic opportunities. They either choose other strategies, which do not exploit their competitive advantage at the cost level fully, or choose a cost leadership strategy, but do not implement it with the same conviction as cost leaders who are conscious of their advantage. This outcome proves that competitor cost assessment is a powerful tool for gaining or maintaining competitive advantage in profitability. Knowledge of cost advantages and disadvantages of competitors allows anticipation of their future behaviour. In addition, the analysis of external cost information can influence investment behaviour, production quantity, and pricing policy of firms.

Against this background, this study examined the effect of competitor cost assessment on the profitability of quoted manufacturing companies in Nigeria. The operationalized proxies for profitability are net profit margin and return on equity. The findings of the study indicate that:

- i. Competitor cost assessment significantly affects the net profit margin of quoted manufacturing companies in Nigeria; and
- ii. Competitor cost assessment significantly affects the return on equity of quoted manufacturing companies in Nigeria.

Accordingly, accounting for a firm's competitors helps the firm to discover its weaknesses, and identify opportunities and threats from the business environment. While formulating an organization's strategy, business executives are expected to consider competitor's strategies. Competitor accounting is, thus, a driver of a firm's strategy, which affects how firms act or react in the sector. A firm also conducts competitor accounting to ascertain its standing amongst competitors. From the findings of this study, it is concluded that competitive cost assessment significantly affects the profitability (net profit margin and return on equity) of quoted manufacturing firms in Nigeria. Based on the conclusion, it is recommended that investors and managers of quoted manufacturing companies in Nigeria should:

- i. Professionally carryout analysis/assessment of competitors cost in order to sustain their cost leadership for enhanced financial performance; and
- ii. Establish a special unit made up of analysts from the accounts and marketing departments and charged with the responsibility of supporting/overseeing the conducting competitor accounting on regular basis to ensure greater diligence and efficiency. Also, the authorities responsible for setting management accounting standards should intensify advocacy for the practice of competitor accounting, and continually upgrade their accounting systems to keep pace with financial reporting best practices.

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APPENDIX

Data on the Study Variables from the Selected Quoted Manufacturing Firms in Nigeria: 2012-2016

Companies	Variables	2012	2013	2014	2015	2016	Average
1	Net Profit Margin	0.06	0.04	0.08	0.07	0.13	0.076
	Return on equity	0.03	0.07	0.05	0.11	0.09	0.07
	Operational Efficiency	0.84	0.82	0.61	0.51	0.39	0.63
2	Net Profit Margin	0.18	0.15	0.28	0.11	0.78	0.30
	Return on equity	0.24	0.32	0.29	0.28	0.26	0.28
	Operational Efficiency	1.84	1.83	3.25	3.26	3.76	2.79
3	Net Profit Margin	0.04	0.05	0.05	0.03	0.08	0.05
	Return on equity	0.54	0.96	0.23	0.11	0.78	0.52
	Operational Efficiency	0.55	1.63	1.74	2.91	6.51	2.67
4	Net Profile Margin	0.03	0.08	0.11	0.54	0.66	0.28
	Return on equity	0.49	0.31	0.55	0.73	0.28	0.47
	Operational Efficiency	1.06	1.26	1.11	1.14	1.17	5.74
5	Net Profit Margin	0.13	0.84	0.39	0.77	0.83	0.59
	Return on equity	0.02	0.09	0.01	0.08	1.04	0.25
	Operational Efficiency	1.78	2.11	1.15	1.18	0.85	1.41
6	Net Profit Margin	0.06	0.04	0.05	0.04	0.83	0.20
	Return on equity	0.01	0.13	0.18	0.25	0.44	0.20
	Operational Efficiency	1.09	1.16	0.93	0.51	1.22	0.98
7	Net Profit Margin	0.14	0.35	0.55	0.91	0.36	0.46
	Return on equity	0.02	0.06	0.09	0.11	0.08	0.07
	Operational Efficiency	1.11	1.37	0.94	1.26	0.97	1.13
8	Net Profit Margin	0.01	0.01	0.08	0.07	0.03	0.04

	Return on equity	0.13	0.08	0.10	0.10	0.22	0.13
	Operational Efficiency	1.55	1.30	1.14	1.09	0.91	1.20
9	Net Profit Margin	0.12	0.17	0.03	0.11	0.98	0.28
	Return on equity	0.16	0.88	0.14	0.06	0.09	0.27
	Operational Efficiency	0.87	0.66	0.51	0.44	0.33	0.56
10	Net Profit Margin	0.09	0.06	0.04	0.06	0.08	0.07
	Return on equity	0.05	0.07	0.06	0.06	0.09	0.06
	Operational Efficiency	1.37	1.55	1.26	1.14	1.10	1.28
11	Net Profit Margin	0.81	0.83	0.50	0.34	0.39	0.57
	Return on equity	0.05	0.03	0.12	0.17	0.10	0.09
	Operational Efficiency	4.03	3.22	3.98	3.77	2.49	3.50
12	Net Profit Margin	0.02	0.07	0.13	0.06	0.03	0.06
	Return on equity	0.17	0.19	0.26	0.13	0.20	0.19
	Operational Efficiency	0.40	2.65	2.38	0.42	2.86	1.74
13	Net Profit Margin	0.06	0.11	0.09	0.08	0.07	0.08
	Return on equity	0.22	0.19	0.28	0.10	0.13	0.18
	Operational Efficiency	2.14	1.53	1.87	1.85	1.75	1.83
14	Net Profit Margin	0.11	0.19	0.08	0.13	0.12	0.13
	Return on equity	0.20	0.12	0.10	0.22	0.18	0.16
	Operational Efficiency	1.53	1.44	1.52	1.38	1.29	1.43
15	Net Profit Margin	0.09	0.18	0.10	0.07	0.21	0.13
	Return on equity	0.16	0.21	0.27	0.10	0.24	0.29
	Operational Efficiency	2.22	1.79	1.53	2.22	1.73	1.90
16	Net Profit Margin	0.08	0.07	0.07	0.05	0.10	0.07
	Return on equity	0.22	0.11	0.23	0.10	0.08	0.15
	Operational Efficiency	1.11	1.24	1.13	0.09	0.10	0.73
17	Net Profit Margin	0.10	0.12	0.18	0.22	0.14	0.76
	Return on equity	0.13	0.09	0.21	0.07	0.19	0.14
	Operational Efficiency	0.98	1.35	0.88	2.11	2.02	1.47
18	Net Profit Margin	0.11	0.22	0.18	0.13	0.10	0.15
	Return on equity	0.08	0.07	0.09	0.04	0.09	0.07
	Operational Efficiency	0.09	1.11	2.04	1.65	1.82	1.34

19	Net Profit Margin	0.09	0.18	0.10	0.22	0.13	0.14
	Return on equity	0.11	0.23	0.09	0.21	0.29	0.19
	Operational Efficiency	2.22	1.67	1.78	2.00	2.13	2.00
20	Net Profit Margin	0.12	0.31	0.19	0.25	0.22	0.22
	Return on equity	0.4	0.12	0.15	0.10	0.13	0.18
	Operational Efficiency	1.6	1.48	2.56	0.71	0.45	1.36
21	Net Profit Margin	0.11	0.08	0.21	0.15	0.07	0.12
	Return on equity	0.29	2.00	0.18	0.22	0.19	0.58
	Operational Efficiency	1.63	1.75	1.57	1.46	1.43	1.57
22	Net Profit Margin	0.06	0.26	0.11	0.14	0.17	0.15
	Return on equity	0.20	0.11	0.18	0.09	0.10	0.14
	Operational Efficiency	0.71	0.68	0.68	0.67	0.59	0.67
23	Net Profit Margin	0.04	0.05	0.04	0.04	0.06	0.05
	Return on equity	0.09	0.11	0.13	0.20	0.23	0.15
	Operational Efficiency	1.31	1.66	1.54	1.46	1.73	1.54
24	Net Profit Margin	0.21	0.13	0.11	0.19	0.22	0.17
	Return on equity	0.06	0.22	0.18	0.20	0.24	0.18
	Operational Efficiency	2.13	1.67	1.34	2.44	2.36	1.99
25	Net Profit Margin	0.26	0.22	0.2	0.29	0.24	0.24
	Return on equity	0.11	0.16	0.13	0.14	0.18	0.14
	Operational Efficiency	3.64	1.74	1.7	1.67	2.36	2.22
26	Net Profit Margin	0.13	0.12	0.19	0.23	0.16	0.17
	Return on Equity	0.27	0.18	0.22	0.29	0.31	0.25
	Operational Efficiency	0.76	1.31	1.07	1.00	0.80	0.99
27	Net Profit Margin	0.09	0.16	0.21	0.20	0.19	0.17
	Return on Equity	0.11	0.19	0.22	0.13	0.26	0.18
	Operational Efficiency	1.27	2.37	3.39	3.03	1.11	2.23
28	Net Profit Margin	0.02	0.03	0.09	0.12	0.11	0.07
	Return on Equity	0.13	0.21	0.15	0.28	0.31	0.83
	Operational Efficiency	1.56	1.43	1.37	1.14	0.98	1.30
29	Net Profit Margin	0.10	0.12	0.12	0.16	0.14	0.13
	Return on Equity	0.13	0.19	0.08	0.07	0.11	0.12
	Operational Efficiency	0.45	1.89	2.00	2.26	2.78	1.88

30	Net Profit Margin	0.14	0.1	0.13	0.08	0.15	0.48
	Return on Equity	0.06	0.12	0.14	0.13	0.12	0.47
	Operational Efficiency	1.26	1.31	1.38	1.03	1.24	1.24
31	Net Profit Margin	0.08	0.13	0.12	0.09	0.14	0.11
	Return on Equity	0.09	0.12	0.16	0.14	0.15	0.13
	Operational Efficiency	4.27	3.29	2.83	2.03	1.70	2.82
32	Net Profit Margin	0.21	0.11	0.13	0.17	0.26	0.18
	Return on Equity	0.09	0.12	0.16	0.14	0.15	0.13
	Operational Efficiency	4.27	3.29	2.83	2.03	1.70	2.82
33	Net Profit Margin	0.03	0.05	0.10	0.08	0.09	0.07
	Return on Equity	0.06	0.11	0.07	0.10	0.10	0.09
	Operational Efficiency	1.14	1.08	0.91	0.84	0.75	0.94
34	Net Profit Margin	0.11	0.14	0.19	0.10	0.20	2.12
	Return on Equity	0.09	0.07	0.21	0.16	0.26	0.16
	Operational Efficiency	1.14	1.08	0.91	0.84	0.75	0.94
35	Net Profit Margin	0.22	0.18	0.27	0.31	0.36	0.27
	Return on Equity	0.10	0.24	0.19	0.20	0.21	0.19
	Operational Efficiency	0.85	0.46	0.64	0.55	0.60	0.62
36	Net Profit Margin	0.10	0.13	0.17	0.10	0.15	0.13
	Return on Equity	0.09	0.11	0.19	0.13	0.17	0.14
	Operational Efficiency	3.26	2.66	2.52	3.40	1.75	2.72
37	Net Profit Margin	0.08	0.11	0.19	0.16	0.20	0.15
	Return on Equity	0.21	0.26	0.17	0.15	0.13	0.18
	Operational Efficiency	1.53	1.79	2.16	1.75	1.86	1.82
38	Net Profit Margin	0.18	0.10	0.07	0.13	0.16	0.13
	Return on Equity	0.07	0.15	0.16	0.11	0.09	0.12
	Operational Efficiency	2.69	2.58	2.02	1.39	1.84	2.1
39	Net Profit Margin	0.19	0.07	0.14	0.16	0.20	0.15
	Return on Equity	0.10	0.13	0.22	0.08	0.16	0.14
	Operational Efficiency	1.39	0.39	1.26	1.63	1.44	1.22
40	Net Profit Margin	0.16	0.12	0.13	0.17	0.24	0.16
	Return on Equity	0.14	0.09	0.08	0.11	0.17	0.12
	Operational Efficiency	2.12	2.03	2.07	1.77	1.53	1.90

41	Net Profit Margin	0.18	0.15	0.28	0.11	0.78	0.30
	Return on equity	0.24	0.32	0.29	0.28	0.26	0.28
	Operational Efficiency	1.84	1.83	3.25	3.26	3.76	2.79
42	Net Profit Margin	0.06	0.04	0.05	0.04	0.83	0.20
	Return on equity	0.01	0.13	0.18	0.25	0.44	0.20
	Operational Efficiency	1.09	1.16	0.93	0.51	1.22	0.98
43	Net Profit Margin	0.03	0.08	0.11	0.54	0.66	0.28
	Return on equity	0.49	0.31	0.55	0.73	0.28	0.47
	Operational Efficiency	1.06	1.26	1.11	1.14	1.17	1.15
44	Net Profit Margin	0.12	0.31	0.19	0.25	0.22	0.22
	Return on equity	0.4	0.12	0.15	0.10	0.13	0.18
	Operational Efficiency	1.6	1.48	2.56	0.71	0.45	1.36
45	Net Profit Margin	0.13	0.84	0.39	0.77	0.83	0.59
	Return on equity	0.02	0.09	0.01	0.08	1.04	0.25
	Operational Efficiency	1.78	2.11	1.15	1.18	0.85	1.41
46	Net Profit Margin	0.06	0.11	0.09	0.08	0.07	0.08
	Return on equity	0.22	0.19	0.28	0.10	0.13	0.18
	Operational Efficiency	2.14	1.53	1.87	1.85	1.75	1.83
47	Net Profit Margin	0.13	0.12	0.19	0.23	0.16	0.17
	Return on Equity	0.27	0.18	0.22	0.29	0.31	0.25
	Operational Efficiency	0.76	1.31	1.07	1.00	0.80	0.99
48	Net Profit Margin	0.22	0.18	0.27	0.31	0.36	0.27
	Return on Equity	0.10	0.24	0.19	0.20	0.21	0.19
	Operational Efficiency	0.85	0.46	0.64	0.55	0.60	0.62
49	Net Profit Margin	0.06	0.04	0.08	0.07	0.13	0.08
	Return on equity	0.03	0.07	0.05	0.11	0.09	0.07
	Operational Efficiency	0.84	0.82	0.61	0.51	0.39	0.63
50	Net Profit Margin	0.04	0.05	0.05	0.03	0.08	0.05
	Return on equity	0.54	0.96	0.23	0.11	0.78	0.52
	Operational Efficiency	0.55	1.63	1.74	2.91	6.51	2.67
52	Net Profit Margin	0.02	0.07	0.13	0.06	0.03	0.06
	Return on equity	0.17	0.19	0.26	0.13	0.20	0.19
	Operational Efficiency	0.40	2.65	2.38	0.42	2.86	1.74

53	Net Profit Margin	0.01	0.01	0.08	0.07	0.03	0.04
	Return on equity	0.13	0.08	0.10	0.10	0.22	0.13
	Operational Efficiency	1.55	1.30	1.14	1.09	0.91	1.20
54	Net Profit Margin	0.16	0.12	0.13	0.17	0.24	0.16
	Return on Equity	0.14	0.09	0.08	0.11	0.17	0.12
	Operational Efficiency	2.12	2.03	2.07	1.77	1.53	1.90
55	Net Profit Margin	0.11	0.22	0.18	0.13	0.10	0.15
	Return on equity	0.08	0.07	0.09	0.04	0.09	0.07
	Operational Efficiency	0.09	1.11	2.04	1.65	1.82	1.34
56	Net Profit Margin	0.11	0.14	0.19	0.10	0.20	0.15
	Return on Equity	0.09	0.07	0.21	0.16	0.26	0.16
	Operational Efficiency	1.14	1.08	0.91	0.84	0.75	0.94
57	Net Profit Margin	0.12	0.17	0.03	0.11	0.98	0.28
	Return on equity	0.16	0.88	0.14	0.06	0.09	0.27
	Operational Efficiency	0.87	0.66	0.51	0.44	0.33	0.56
58	Net Profit Margin	0.22	0.18	0.27	0.31	0.36	0.27
	Return on Equity	0.10	0.24	0.19	0.20	0.21	0.19
	Operational Efficiency	0.85	0.46	0.64	0.55	0.60	0.62
59	Net Profit Margin	0.13	0.12	0.19	0.23	0.16	0.17
	Return on Equity	0.27	0.18	0.22	0.29	0.31	0.25
	Operational Efficiency	0.76	1.31	1.07	1.00	0.80	0.99
60	Net Profit Margin	0.09	0.18	0.10	0.22	0.13	0.14
	Return on equity	0.11	0.23	0.09	0.21	0.29	0.19
	Operational Efficiency	2.22	1.67	1.78	2.00	2.13	2.00
61	Net Profit Margin	0.21	0.13	0.11	0.19	0.22	0.17
	Return on equity	0.06	0.22	0.18	0.20	0.24	0.18
	Operational Efficiency	2.13	1.67	1.34	2.44	2.36	1.99
62	Net Profit Margin	0.06	0.11	0.09	0.08	0.07	0.08
	Return on equity	0.22	0.19	0.28	0.10	0.13	0.18
	Operational Efficiency	2.14	1.53	1.87	1.85	1.75	1.83
63	Net Profit Margin	0.14	0.35	0.55	0.91	0.36	0.46
	Return on equity	0.02	0.06	0.09	0.11	0.08	0.07
	Operational Efficiency	1.11	1.37	0.94	1.26	0.97	1.13

64	Net Profit Margin	0.01	0.01	0.08	0.07	0.03	0.04
	Return on equity	0.13	0.08	0.10	0.10	0.22	0.13
	Operational Efficiency	1.55	1.30	1.14	1.09	0.91	1.20
65	Net Profit Margin	0.81	0.83	0.50	0.34	0.39	0.57
	Return on equity	0.05	0.03	0.12	0.17	0.10	0.09
	Operational Efficiency	4.03	3.22	3.98	3.77	2.49	3.50
66	Net Profit Margin	0.26	0.22	0.2	0.29	0.24	0.24
	Return on equity	0.11	0.16	0.13	0.14	0.18	0.14
	Operational Efficiency	3.64	1.74	1.7	1.67	2.36	2.22
67	Net Profit Margin	0.11	0.14	0.19	0.10	0.20	0.15
	Return on Equity	0.09	0.07	0.21	0.16	0.26	0.16
	Operational Efficiency	1.14	1.08	0.91	0.84	0.75	0.94
68	Net Profit Margin	0.11	0.19	0.08	0.13	0.12	0.13
	Return on equity	0.20	0.12	0.10	0.22	0.18	0.16
	Operational Efficiency	1.53	1.44	1.52	1.38	1.29	1.43
69	Net Profit Margin	0.10	0.12	0.18	0.22	0.14	0.76
	Return on equity	0.13	0.09	0.21	0.07	0.19	0.14
	Operational Efficiency	0.98	1.35	0.88	2.11	2.02	1.47
70	Net Profit Margin	0.11	0.08	0.21	0.15	0.07	0.12
	Return on equity	0.29	2.00	0.18	0.22	0.19	0.58
	Operational Efficiency	1.63	1.75	1.57	1.46	1.43	1.57
71	Net Profit Margin	0.08	0.11	0.19	0.16	0.20	0.15
	Return on Equity	0.21	0.26	0.17	0.15	0.13	0.18
	Operational Efficiency	1.53	1.79	2.16	1.75	1.86	1.82
72	Net Profit Margin	0.02	0.03	0.09	0.12	0.11	0.07
	Return on Equity	0.13	0.21	0.15	0.28	0.31	0.83
	Operational Efficiency	1.56	1.43	1.37	1.14	0.98	1.30
73	Net Profit Margin	0.08	0.13	0.12	0.09	0.14	0.11
	Return on Equity	0.09	0.12	0.16	0.14	0.15	0.13
	Operational Efficiency	4.27	3.29	2.83	2.03	1.70	2.82
74	Net Profit Margin	0.11	0.19	0.08	0.13	0.12	0.13
	Return on equity	0.20	0.12	0.10	0.22	0.18	0.16
	Operational Efficiency	1.53	1.44	1.52	1.38	1.29	1.43

75	Net Profit Margin	0.03	0.05	0.10	0.08	0.09	0.07
	Return on Equity	0.06	0.11	0.07	0.10	0.10	0.09
	Operational Efficiency	1.14	1.08	0.91	0.84	0.75	0.94
76	Net Profit Margin	0.06	0.26	0.11	0.14	0.17	0.15
	Return on equity	0.20	0.11	0.18	0.09	0.10	0.14
	Operational Efficiency	0.71	0.68	0.68	0.67	0.59	0.67
77	Net Profit Margin	0.04	0.05	0.04	0.04	0.06	0.05
	Return on equity	0.09	0.11	0.13	0.20	0.23	0.15
	Operational Efficiency	1.31	1.66	1.54	1.46	1.73	1.54
78	Net Profit Margin	0.08	0.07	0.07	0.05	0.10	0.07
	Return on equity	0.22	0.11	0.23	0.10	0.08	0.15
	Operational Efficiency	1.11	1.24	1.13	0.09	0.10	0.73
79	Net Profit Margin	0.09	0.06	0.04	0.06	0.08	0.07
	Return on equity	0.05	0.07	0.06	0.06	0.09	0.06
	Operational Efficiency	1.37	1.55	1.26	1.14	1.10	1.28
80	Net Profit Margin	0.10	0.13	0.17	0.10	0.15	0.13
	Return on Equity	0.09	0.11	0.19	0.13	0.17	0.14
	Operational Efficiency	3.26	2.66	2.52	3.40	1.75	2.72
81	Net Profit Margin	0.10	0.12	0.12	0.16	0.14	0.13
	Return on Equity	0.13	0.19	0.08	0.07	0.11	0.12
	Operational Efficiency	0.45	1.89	2.00	2.26	2.78	1.88
82	Net Profit Margin	0.19	0.07	0.14	0.16	0.20	0.15
	Return on Equity	0.10	0.13	0.22	0.08	0.16	0.14
	Operational Efficiency	1.39	0.39	1.26	1.63	1.44	1.22
83	Net Profit Margin	0.09	0.16	0.21	0.20	0.19	0.17
	Return on Equity	0.11	0.19	0.22	0.13	0.26	0.18
	Operational Efficiency	1.27	2.37	3.39	3.03	1.11	2.23
84	Net Profit Margin	0.08	0.13	0.12	0.09	0.14	0.11
	Return on Equity	0.09	0.12	0.16	0.14	0.15	0.13
	Operational Efficiency	4.27	3.29	2.83	2.03	1.70	2.82
85	Net Profit Margin	0.10	0.12	0.18	0.22	0.14	0.76
	Return on equity	0.13	0.09	0.21	0.07	0.19	0.14
	Operational Efficiency	0.98	1.35	0.88	2.11	2.02	1.47

86	Net Profit Margin	0.06	0.26	0.11	0.14	0.17	0.15
	Return on equity	0.20	0.11	0.18	0.09	0.10	0.14
	Operational Efficiency	0.71	0.68	0.68	0.67	0.59	0.67
87	Net Profit Margin	0.12	0.31	0.19	0.25	0.22	0.22
	Return on equity	0.4	0.12	0.15	0.10	0.13	0.18
	Operational Efficiency	1.6	1.48	2.56	0.71	0.45	1.36
88	Net Profit Margin	0.09	0.18	0.10	0.22	0.13	0.14
	Return on equity	0.11	0.23	0.09	0.21	0.29	0.19
	Operational Efficiency	2.22	1.67	1.78	2.00	2.13	2.00
89	Net Profit Margin	0.14	0.1	0.13	0.08	0.15	0.48
	Return on Equity	0.06	0.12	0.14	0.13	0.12	0.47
	Operational Efficiency	1.26	1.31	1.38	1.03	1.24	1.24
90	Net Profit Margin	0.12	0.17	0.03	0.11	0.98	0.28
	Return on equity	0.16	0.88	0.14	0.06	0.09	0.27
	Operational Efficiency	0.87	0.66	0.51	0.44	0.33	0.56
91	Net Profit Margin	0.06	0.04	0.08	0.07	0.13	0.08
	Return on equity	0.03	0.07	0.05	0.11	0.09	0.07
	Operational Efficiency	0.84	0.82	0.61	0.51	0.39	0.63
92	Net Profit Margin	0.12	0.31	0.19	0.25	0.22	0.22
	Return on equity	0.4	0.12	0.15	0.10	0.13	0.18
	Operational Efficiency	1.6	1.48	2.56	0.71	0.45	1.36

Source: Computations from the firms' Annual Reports (various years)