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Relationship between Profitability Indicators and Maximization Market Value Added and Intrinsic for the Industrial Companies

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ABSTRACT

Purpose: This research aims to study the impact of profitability indicators on maximizing the market value added and intrinsic value for industrial companies listed on the Iraq Stock Exchange.

Design/methodology/approach: The research was structured using the analysis study method, incorporating various financial indicators, such as Net Profit Margin, Basic Earning Power, Return on Assets, Return on Equity, to examine their impact on market value added and intrinsic value.

Findings: The researchers utilized financial data from fourteen industrial companies operating in Iraq; listed in the financial market, spanning the period from 2011 to 2022. The data underwent analysis employing financial methods and various statistical tools, including single and multiple regression analysis as well as transaction analysis. The results revealed that the profitability indicators adopted by the studied companies exerted varied effects on maximizing the market value or intrinsic value. This variance was observed in accordance with the nature and orientations of each company. The underlying reason for this variation can be attributed to the direct relationship of the financial indicators used directly with the investors, thereby influencing management decisions.

Research limitations/implications: The paper focuses on four variables representatives of firm profitability indicators to maximize both the market value added and the intrinsic value; it is necessary expanding the independent variables.

Originality/value: This research contributes to the literature on Maximizing value levels for industrial companies. It aids firm leaders and decision-makers understanding the significant role of profitability indicators in maximizing value in financial markets by offering a more comprehensive view of their effectiveness.

Keywords: Profitability indicators, Market value added, Intrinsic value, Industrial companies

I. Introduction

This study explores the relationship between profitability indicators and the maximization of market value added and intrinsic value in the industrial companies. Various profitability indicators and

measures for maximizing the added and real market value are examined using financial statements and annual reports published in Iraq Stock Exchange (Chun, 2021). "Value is a crucial goal for companies to remain in business and gain a competitive advantage (Odusanya, et al., 2018)". It is a prerequisite for the company's long-term survival and success. Value maximization serves as a major goal for achieving various financial objectives. Profitability is also a fundamental measure of the company's

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performance, reflected in this financial report. It demonstrates the company's ability to generate profits relative to sales and assets during a specific period. Therefore, the profitability of companies and strategies for enhancing them should be evident in their ultimate value. This topic has sparked significant discussions in the literature and continues to be of interest in the realms of economics, finance, accounting and management. Profitability serves as a crucial indicator for evaluating a company's performance, representing its ability to generate profits through effective asset utilization. This profitability, in turn, manifests in the company's future value. Maximizing the company's value equates to enhancing shareholders' wealth by maximizing the market value of shares. Consequently, elevated Stock ensure a higher company valuation, influencing investor confidence in both current and future performance. Additionally, maximizing the real (intrinsic) value of the company refers to its fundamental value determined through fundamental analysis, irrespective of market value. It is typically calculated by adding the discounted future income generated by that company, stock or product to obtain its present value (Grove & Lockhart, 2019).

(Yosita, et al, 2022) emphasized that the company's goal is to maximize the shareholders' wealth by increasing the overall value of the company. the value of the company, however, cannot be solely described only by the its share price; it extends to include the company's intrinsic value. This valuation is assessed in various way, with Profitability indicators serving as key the independent variable in our study. Currently, among the measurement tools recommended by the researchers to maximize value, some include the profit margin, representing the percentage of sales after deducting all costs including interest, taxes and preferred stock dividends. (Mulyadi, et al., 2020), basic earning power measures the company's ability to generate profits and compare it to the total assets, reflecting the company's efficiency in managing all investments in the form of assets (Kurnia, 2022), additionally return on assets is a ratio indicating the company's proficiency in using all its assets to achieve post-tax profit (Rina, et al., 2022).

The return on equity represents the percentage of profitability indicating the measure of the income available to the owners of companies, including ordinary or preferred stockholders, for the capital that they invest in the company. An increase in this ratio signifies rise in the net profit of the company in consideration. Investors can utilize the return on equity index as a crucial factor in selecting shares or investing their capital (Amanda, & Zulkifli, 2022). To maximize value added, a measure of success in enhancing shareholder wealth by allocating resources effectively, companies use it as an indicator to gauge the amount of wealth created for investors , reflecting the achieved prosperity (Rahayu, & Utami, 2023). On the other hand, maximizing intrinsic value (Substantial), referred to as fair value, involves determining the total present value of net cash flow. This can be measured by the company's free cash flow (FCFF), which is expected to be obtained through discounted cash flow models (Sijabat, & Fachrudin, 2022). Iraqi industrial companies are considered the fundamental cornerstone for economic development, playing a vital role in providing employment opportunities, promoting investments, and achieving economic progress. These companies vary in size, activities, and sectors, facing several challenges, including deteriorating infrastructure, complex regulations and administrative procedures, limited funding and investments, skills and training shortages, and rising production costs and employee wages. To enhance the competitiveness and expansion of Iraqi companies, it is crucial to strengthen the business environment, improve infrastructure, and provide financial support to startups and medium-sized enterprises. This will foster the economic environment, enabling companies to grow and prosper. Consequently, this study aims to understand the operations of Iraqi companies in general and the industrial sector in particular through financial and statistical analysis of the companies' financial statements. It seeks to comprehend the nature of their investment decisions and the mechanisms employed to maximize their value, thus maximizing shareholder value. The study also aims to identify the challenges faced by these companies and provide

scientific and practical solutions for them. On the basis of the foregoing, The primary purpose of this study can be clarified through the researchers' endeavor to interpret and analyze the relationship between indicators of profitability, maximizing the market value added, and the intrinsic value of the industrial companies listed in Iraq Stock Exchange through a number of measures and indicators used to measure the profitability of companies and maximize the added and real market value. In the current study, three important financial variables were collected, representing the primary concern of the financial manager on one hand, and the fundamental focus of the investor on the other. This study serves as an extension and complement to the theoretical findings of previous researchers. However, it distinguishes itself by incorporating less commonly used variables, setting it apart from other studies. The primary focus of this study is to explore the financial tools that could play a role in enhancing the value of the entity, particularly when accompanied by high profitability.

II. Literature Review

A. Profitability Indicators

Profitability indicators are ratios used to gauge a company's ability to achieve a satisfactory level of profit as a percentage (Husain, et al., 2020). These indicators illustrate how effectively a company utilize its assets to generate profit and enhance shareholder value (Song, 2021). Among the most crucial indicators used the following (Jihadi, et al., 2021):

1. Net Profit Margin

The Net Profit Margin (NPM) calculates the remaining percentage of sales after subtracting total expenses and costs including as interest and tax (Nariswari, & Nugraha, 2020). Therefore, a high net profit margin indicates a well-performing company. The net profit margin equation is:

$$NPM = \frac{EAT}{Net\ Sales}$$

2. Basic Earning Power

This ratio illustrates the company's capacity to generate profits from its assets and is calculated by dividing total profit before deducting interest and taxes by total assets (Laeli, & Purba, 2015). It represents the percentage of the company's income without factoring in invested capital, or tax and interest obligations. The higher this percentage, the more favorable it is for the company (Brigham, & Ehrhardt, 2020). The basic earning power equation is:

$$BEP = \frac{EBIT}{Total\ assets}$$

3. Return on Assets

Return on assets (ROA) stands as one of the critical ratios that investors scrutinize when analyzing a company's financial performance reports. It gauges the company's total ability to achieve profits using all the assets owned. ROA serves as a measure of the overall efficiency of the company's operations (Ningsih, & Sari, 2019). It can be found through the following equation:

$$ROA = \frac{Net\ Income}{Total\ assets}$$

4. Return on Equity

Another crucial ratio for shareholders and investors in general is Return on Equity (ROE). This ratio reflects the extent to which equity or private capital contributes to the company's profits (Widyastuti, , et al., 2023). The calculated ratio can be used to measure the company's ability to generate profit or net profit after tax from the total capital invested. The equation for return on equity is:

$$ROE = \frac{Net\ Income}{Common\ equity}$$

B. Market Value Added

The Market Value (MVA) can be expressed as the value of the shares minus the shareholders' capital (Sundari, et al., 2023). It signifies the difference between the company's market value and the total invested capital. The ratio serves as a measure of the company's financial performance throughout its existence. A Positive Market Value Added indicates successful financial management in maximizing shareholders' wealth (Setianingtyas, et al., 2015). Success in maximizing shareholders' wealth implies that shareholders receive returns surpassing their invested capital. The maximizing of shareholders' wealth is achieved by increasing the market value of the company's capital beyond the value initially paid by Shareholders. This, in turn, attracts numerous investors to engage in trading the company's shares (Diana, & Sriyono, 2022). Market Value Added is defined as the difference between the market value of the company's shares and the book value as indicated in the balance sheet (Ardana, et al., 2023). It is calculated by using the following equation:

$$MVA = \text{Market value of shares} - \text{Equity capital provided by shareholders}$$

C. The Intrinsic Value

The intrinsic value, also known as the real value is defined as the actual value of the company. It is later compared with the share price in the market to determine whether the company's share price is overvalued, undervalued, or fair value. The intrinsic value of the company refers to its basic essence (Chandra et al, 2017) and is estimated through the discounted cash flow model. This model is considered more accurate of evaluating the company because this model takes into account the time value of money, and according to (Brigham, & Ehrhardt, 2020), when using the Free Cash Flow (FCF) model, the total intrinsic value of the company includes the value of operations along with to the value of short-term

investments (Nguyena & Nghiem, 2023), (assuming that the company does not own other non-performing assets, which applies to most companies), this is called the intrinsic value or the intrinsic value to distinguish it from the market value. The intrinsic value is estimated from the expected cash flows, using the following equation:

$$IC = \text{Value of operations} + \text{Short term investments}$$

D. Hypotheses

- H1:** Profitability indicators, such as Net Profit Margin, Basic Earning Power, and Return on Assets, significantly influence the maximization of market value added in companies listed on the Iraq Stock Exchange.
- H2:** The presence of profitability indicators, including Net Profit Margin, Basic Earning Power, and Return on Assets, has a substantial impact on the maximization of intrinsic value in companies listed on the Iraq Stock Exchange.
- H3:** Profitability indicators play a significant role in influencing the overall value maximization of companies listed on the Iraq Stock Exchange.

III. Methodology

A. Research Type

The current research aims to study and test hypotheses concerning the impact of a several of variables representing the independent variable, namely (profitability indicators) on two dependent variables (market value added and intrinsic value). The two researchers utilized a combination of experimental and analytical evidence to explore the influence of profitability indicators adopted by industrial companies as the independent variable, with the maximizing the value of both types (market and intrinsic) as a dependent variable.

B. Research Community and Sample

This study focused, on industrial companies operating in Iraq and listed in the financial market. The sample was derived from a collection of published financial statements spanning the years 2011 to 2020, encompassing fourteen companies. The criteria for selecting this specific sample in the current research were as follows:

1. The selected companies for the research sample - namely: (IIDP, IITC, IHFI, INCP, IMOS, IMCI, IFCM, IKLV, IMAP, IMIB, IRMC, IBPM, IBSD, IKHC) are actively listed on Iraq Stock Exchange and continue to operate to the present day.
2. The research sample companies consistently publish their financial statements periodically and regularly throughout the period extending from 2011to 2022.
3. The research sample companies have integrated financial data available during the period 2011to2022, ensuring comprehensive coverage all research variables.

C. Data Collection Technique

The primary data obtained for this research comprise historical financial records spanning the period from 2011to2022. These data were directly sourced from information published in Iraq Stock Exchange, as well as the financial reports of the researched companies. In addition, the secondary data of the

research, it included data that It was dealt with by previous studies and literature related to the problem that was studied and analyzed in the current research, which was presented in the form of research and scientific reviews such as books, documents, reports, and any other sources that helped enrich the research scientifically.

IV. Result and Discussion

A. Results

1. Descriptive Statistics

In this research, descriptive statistics serves the purpose of offering a precise and comprehensive overview of the data associated with industrial companies. Table 1 provides insights into the lower and upper limits, as well as with the values of the arithmetic mean and standard deviation for all variables. The following results were derived by testing descriptive statistics within the SPSS program Statistician:

Through the outputs of the statistical program shown in Table 1, it is observed that the descriptive statistics of the study variables were as follows:

- 1-a. The sample size was (14) industrial companies for a period of (12) years, i.e. with a total of (N=168) statistical observations.
- 1-b. The minimum value for (X1), (X3) and (X4) was (0.00), while in (X2) it was (0.02), and

Table 1. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Net Profit Margin (X1)	168	.00	.63	.0802	.09574
Basic Earning Power Ratio (X2)	168	.02	.69	.2483	.16944
Return on Assets (X3)	168	.00	.31	.0441	.05037
Return on Common Equity (X4)	168	.00	.14	.0357	.03849
Market Value Added (Y1)	168	6.81	10.58	9.3493	.69045
Intrinsic Value (Y2)	168	7.44	9.68	8.9111	.43378
Valid N (listwise)	168				

in (Y1) it was (6.81), while in (Y2) the smallest value was (7.44).

1-c. (X1) (0.63), (X2) (0.69), (X3) (0.31), (X4) (0.14), (Y1) (10.58), and (Y2) had a maximum of (9.68).

1-d. The mean for (X1) was (0.0802), (X2) (0.2483), (X3) (0.0441), (X4) (0.03849), (Y1) (9.3493), and (Y2) the mean was (8.9111).

1-e. The standard deviation of (X1) was (0.09574), (X2) (0.16944), (X3) (0.05037), (X4) (0.0357), (Y1) (0.69045), and (Y2) the standard deviation was (433780).

B. Testing Research Hypotheses

1. Testing the Nature of the Data

To ascertain whether the research variables conform to a normal distribution the underwent a normal distribution test. This step is crucial for later inclusion in the regression model; as test (t) and (f) assume that the residual value follows a normal distribution when utilizing graph analysis and statistical tests are used. In this research, the normal distribution was tested using the (Kolmogorov-Smirnov test), and the results of are presented in Table 2.

Through the above results, it is observed that the value of (Asymp) is not significant for the two variables—profitability indicators and maximizing

market value added—with values of (0.875) and (0.150), respectively. However, for the intrinsic value variable, significance is evident with value of (0.003), as indicated by (Sig <0.05). These results lead to the conclusion that the majority of the data follows a normal distribution.

2. Testing the Multiple Linearity

To determine whether a strong correlation exists among the independent variables within the regression model with the dependent variable, the multiple linear relationship test was conducted. Lack of a strong correlation is considered statistically acceptable. From the results presented in Table 3 it is observed that the variance inflation factor (VIF) for the variables (X1, X2, X3, X4) is smaller than (5). This indicates the absence of a multiple linear problem between the independent and dependent variables.

Table 3. Multiple linearity test

Model	Coefficients ^a	
	Collinearity Statistics	
	Tolerance	VIF
1	X1	.650
	X2	.987
	X3	.643
	X4	.676

a. Dependent Variable: Y

Table 2. One-sample Kolmogorov-Smirnov test

		X	Y1	Y2
N		168	168	168
Normal Parameters ^{a,b}	Mean	.1021	9.3493	8.9111
	Std. Deviation	.05602	.69045	.43378
Most Extreme Differences	Absolute	.046	.088	.139
	Positive	.041	.057	.055
	Negative	-.046-	-.088-	-.139-
Kolmogorov-Smirnov Z		.592	1.138	1.802
Asymp. Sig. (2-tailed)		.875	.150	.003

a. Test distribution is Normal.

b. Calculated from data.

3. Testing Correlation

Conducting a correlation test unveils the nature and strength of the relationship between the research variables. In Table 4, it is observed that the correlation between profitability indicators and maximizing the total value of industrial companies (both added and real market) is moderately positive, with a value of (24.3%).

C. Regression Analysis

The statistical tool (R2), known as the coefficient of determination, indicates the model's ability to explain the variation of the dependent variable. Its value ranges between zero and one, with a value close to one signifying that the independent variable providing almost all the information needed to predict changes in the dependent variable. In Table 4, the determination coefficient (R Square) is noted (0.059), implying that the financial profitability indicators explain approximately (5.9%) of the value maximization of the research sample companies. The remaining

(94.1%) of the value influences are attributed to other variables not included in our research model.

To assess the reliability of the independent variable statistics, a (t-test) was conducted in this paragraph. The statistical (t) test evaluates the extent to which the independent variable can affect the variance of the dependent variable. Tables 5 and 6 present the result of this test:

From the above table, it can be seen that the value (t) of the Net Profit Margin amounted to (-2.023), and also that the value of (t) for the Basic Earning Power Ratio amounted to (-1.294), as well as the value of (t) for the rate of return on Assets (ROA) amounted to (2.037), and finally the value (t) of the rate of return on equity (ROE) amounted to (1.425), and when comparing these values with the tabular value, we find that some are less and others are greater, and on the basis of that; formulating the regression model for the first dependent variable is as follows:

$$Y_1 = 9.359 - 1.370X_1 - 0.402X_2 + 2.637X_3 + 2.353X_4 + e$$

Table 4. Testing correlation

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.243 ^a	.059	.036	.54207	2.022

a. Predictors: (Constant), X4, X2, X1, X3

b. Dependent Variable: Y

Table 5. T-Test

Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	9.359	.111		84.277	.000
	X1	-1.370-	.677	-.190-	-2.023-	.045
	X2	-.402-	.311	-.099-	-1.294-	.197
	X3	2.637	1.295	.192	2.037	.043
	X4	2.353	1.651	.131	1.425	.156

a. Dependent Variable: Market Value Added

Also, through Table 6, it can be seen that the value (t) of the Net Profit Margin amounted to (-1.955), and also that the value of (t) for the Basic Earning Power Ratio amounted to (-0.449), as well as the value of (t) for the rate of return on assets (ROA) amounted to (1.468), and finally the value of (t) for the rate of return on equity (ROE) amounted to (1.682), and when comparing these values with the tabular value, we find that some are less and others are greater, and on the basis of that, formulating the regression model for the first dependent variable is as follows:

$$Y_2 = 8.884 - 0.841X_1 - 0.089X_2 + 1.207X_3 + 1.763X_4 + e$$

The multiple relationships between the independent variable, the profitability indicators and its different dimensions on the two dependent variables, the market value added and real, can be expressed through the following Figure 1.

D. Testing Reliability by Simultaneous Statistic

In this section, an analysis of variance test (F-Statistics -ANOVA) is performed, as the statistical test (F) in its general form shows whether the independent variables that were entered into the model have a direct and simultaneous effect on the dependent variables, and the results of the F test were processed

using the program SPSS shown in the following table:

Based on the results of Table 7, which were obtained by conducting the (F) test, we find that the calculated value (F-Calculated > F-Table) using a confidence level (95%), and thus (H₀) is rejected, and this means that there is an effect between indicators Profitability, market value added, and the intrinsic value of industrial companies in the research sample, and the alternative hypothesis (H₁) is accepted because (Sig ≤ 5%).

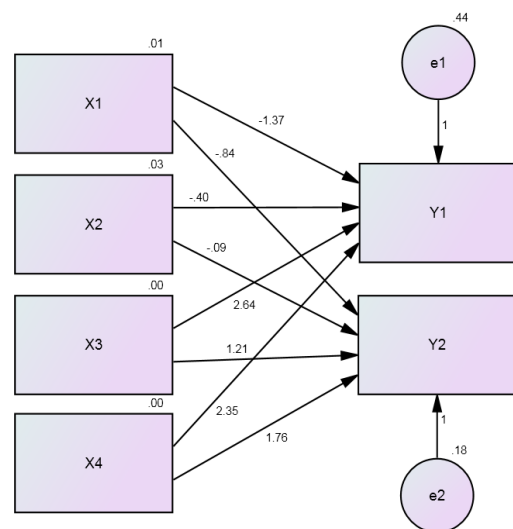


Figure 1. Effect relationships for study variables

Table 6. T-Test

Model	Coefficients ^a				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8.884	.070		126.028	.000
1	X1	-.841-	-.186-	-1.955-	.052
	X2	-.089-	-.035-	-.449-	.654
	X3	1.207	.140	1.468	.144
	X4	1.763	.156	1.682	.095

a. Dependent Variable: Intrinsic Value

Table 7. F-Test

		ANOVA ^a				
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.005	4	.751	2.557	.041 ^b
	Residual	47.896	163	.294		
	Total	50.901	167			

a. Dependent Variable: Y

b. Predictors: (Constant), X4, X2, X1, X3

V. Conclusion and Suggestion

A. Conclusions

Based on the findings of this research, the following conclusion can be drawn: The profitability indicators adopted by the researched companies exhibit varying effect on maximizing either the market value or the intrinsic value. The emphasis was placed on the rate of return on assets when maximizing market value added, and on the rate of return on equity when maximizing intrinsic value. The variation can be attributed of these companies' operations and their inclination towards maximizing the value of either type studied -namely, market value and intrinsic value. The lack of continuity in most profitability indicators among the researched companies is evident due to the presence of certain negative indicators for profitability compared to the sales percentage, indicating inefficiency in profit generation due to inadequate management of available resources. Additionally, the decline in profitability indicators during the researched period negatively impacted the growth opportunities for these companies, clearly reflecting a failure to maximize both added and intrinsic value. This discrepancy may be linked to financial indicators that have a direct relationship with investors, influencing management decisions. In contrast, the intrinsic value variable is directly associated with the of operational value of the surveyed companies and the nature of their investments.

B. Suggestion

The researchers propose several suggestions based on the results of this study, aiming to contribute additional knowledge to the research field and assist other researchers. It is recommended that further studies explore additional variables influencing market value added and the maximize of intrinsic value of industrial companies. Special attention should be giving to profitability indicators that demonstrate a clear impact on the variables of the study, specifically the rate of return on assets and equity. Among the anticipated research directions is the necessity to study the impact of profitability indicators and their various metrics on maximizing shareholders' profits. This is crucial as it represents a significant aspect of financial performance for companies, serving as an important indicator of efficiency in managing their assets with greater effectiveness. It involves adopting the principle of prioritization among available investment alternatives, opting for the optimal alternatives. This approach leads to the maximization of both real added value and the overall value of the company, consequently maximizing shareholder value. Researchers are advised not to concentrate solely on the indicators that exhibit indirect influence relationships.

Abbreviations

BEP: Basic Earning Power Ratio

IC: Intrinsic value

MVA: Market value add
NPM: Net Profit Margin.
ROA: Return on Assets
ROE: Return on Common Equity

Authors' contributions

Analyzed and interpreted all the data, and was a major contributor in writing the manuscript.

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Competing interests

The author has no conflicts of interest to declare that are relevant to the content of this article.

Availability of data and materials

The datasets generated and/or analyzed during the current study are available in the Figshare repository:

<http://www.isx-iq.net/isxportal/portal/uploadedFilesList.html?currLanguage=en>

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Appendix 1. Financial analysis of net profit margin

N.	Y.C.	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	X	S.D	C.V
1	IIDP	7.95%	9.58%	-4.29%	3.61%	-7.39%	-18.76%	-5.34%	-24.01%	3.09%	6.70%	-18.30%	18.45%	-0.02	0.13	-5.43
2	IITC	17.91%	21.12%	25.63%	15.61%	23.27%	62.59%	26.53%	38.89%	39.61%	18.11%	33.81%	20.01%	0.29	0.13	0.47
3	IHFI	4.63%	4.03%	4.03%	4.03%	4.03%	4.03%	4.03%	8.89%	-7.88%	-3.93%	3.25%	4.14%	0.03	0.04	1.58
4	INCP	-13.65%	-39.02%	-10.32%	-35.07%	-47.01%	-15.23%	-14.17%	2.72%	4.14%	7.21%	10.01%	18.86%	-0.11	0.21	-1.90
5	IMOS	-4.84%	-1.87%	2.66%	3.69%	4.88%	1.64%	1.98%	5.77%	3.32%	4.99%	8.35%	6.98%	0.03	0.04	1.17
6	IMCI	22.51%	6.13%	10.10%	8.44%	8.83%	-17.64%	-22.11%	-8.95%	-12.62%	-5.06%	-18.51%	-15.54%	-0.04	0.14	-3.89
7	IFCM	13.39%	15.85%	15.85%	15.85%	15.85%	15.85%	-4.20%	-2.36%	6.36%	-2.79%	4.77%	2.56%	0.08	0.08	1.02
8	IKLV	4.10%	3.69%	12.34%	-5.44%	11.96%	6.96%	3.12%	7.38%	4.50%	18.85%	14.25%	15.36%	0.08	0.07	0.83
9	IMAP	5.40%	10.61%	10.74%	22.98%	18.37%	-11.38%	7.60%	2.86%	16.93%	-33.73%	-11.85%	-11.85%	0.02	0.16	7.38
10	IMIB	-4.67%	-3.47%	6.33%	5.09%	-3.01%	-2.57%	-5.60%	-10.57%	-3.45%	-5.75%	13.45%	31.58%	0.01	0.12	7.95
11	IRMC	2.40%	8.12%	3.81%	-20.89%	-13.95%	37.90%	24.63%	22.62%	11.45%	6.38%	11.23%	9.84%	0.09	0.16	1.84
12	IBPM	-3.79%	3.43%	2.97%	-3.79%	-1.80%	4.61%	2.29%	20.07%	14.89%	5.77%	6.88%	13.28%	0.05	0.07	1.38
13	IBSD	1.88%	8.81%	10.61%	10.58%	11.22%	12.79%	12.80%	13.13%	13.81%	14.74%	12.86%	13.06%	0.11	0.03	0.30
14	IKHC	-8.34%	-12.77%	-12.77%	-12.77%	-12.77%	-12.77%	20.91%	5.46%	15.15%	12.64%	3.56%	-9.61%	-0.02	0.13	-6.37
X		0.03	0.02	0.06	0.01	0.01	0.05	0.04	0.06	0.08	0.03	0.05	0.08			
S.D		0.10	0.15	0.10	0.16	0.18	0.23	0.14	0.15	0.13	0.13	0.14	0.13			
C.V		3.14	5.94	1.83	18.25	20.02	4.68	3.76	2.64	1.63	4.25	2.64	1.60			

Appendix 2. Financial analysis of basic earning power

N.	Y.C.	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	X	S.D	C.V
1	IIDP	69.32%	57.55%	44.85%	31.79%	19.19%	25.49%	17.75%	10.42%	11.46%	18.68%	13.59%	9.28%	0.27	0.20	0.72
2	IITC	23.11%	20.37%	19.97%	24.31%	26.06%	32.31%	17.24%	17.64%	29.22%	22.49%	26.34%	19.51%	0.23	0.05	0.20
3	IHFI	51.70%	51.93%	51.93%	51.93%	48.96%	48.96%	48.96%	54.76%	31.90%	9.33%	9.33%	9.92%	0.39	0.19	0.48
4	INCP	38.81%	26.62%	9.03%	31.71%	23.95%	36.21%	33.63%	46.73%	48.77%	24.71%	16.38%	11.84%	0.29	0.13	0.44
5	IMOS	43.26%	38.50%	38.65%	51.01%	49.68%	48.06%	52.92%	37.48%	32.62%	26.31%	16.31%	33.16%	0.39	0.11	0.28
6	IMCI	8.24%	34.66%	42.82%	51.87%	28.89%	22.61%	53.65%	17.30%	6.44%	6.74%	6.80%	6.90%	0.24	0.18	0.76
7	IFCM	59.33%	47.59%	47.59%	47.59%	47.59%	47.59%	31.98%	30.64%	57.19%	15.94%	63.05%	53.54%	0.46	0.13	0.29
8	IKLV	4.84%	5.07%	8.50%	9.50%	10.94%	13.33%	17.06%	17.12%	37.53%	22.10%	20.53%	43.75%	0.18	0.12	0.70
9	IMAP	47.61%	68.65%	38.37%	22.47%	34.52%	24.67%	19.99%	20.07%	7.79%	15.31%	7.69%	4.66%	0.26	0.19	0.72
10	IMIB	38.14%	44.15%	49.05%	55.41%	17.40%	10.18%	27.83%	29.38%	21.75%	24.99%	22.54%	12.78%	0.29	0.14	0.49
11	IRMC	5.12%	19.48%	4.84%	3.00%	3.81%	10.36%	28.36%	21.24%	20.58%	21.35%	5.90%	18.73%	0.14	0.09	0.66
12	IBPM	24.55%	30.08%	11.93%	8.71%	4.66%	8.00%	10.87%	8.54%	11.84%	11.24%	11.14%	10.35%	0.13	0.07	0.57
13	IBSD	12.72%	12.88%	12.16%	10.71%	10.57%	10.00%	9.12%	9.46%	9.11%	8.66%	9.52%	12.14%	0.11	0.02	0.14
14	IKHC	7.36%	5.07%	5.07%	5.07%	5.07%	5.07%	13.70%	14.93%	11.59%	12.32%	11.59%	11.95%	0.09	0.04	0.43
X		0.31	0.33	0.27	0.29	0.24	0.24	0.27	0.24	0.24	0.16	0.20	0.18			
S.D		0.22	0.20	0.19	0.20	0.16	0.16	0.15	0.14	0.16	0.08	0.18	0.15			
C.V		0.70	0.59	0.68	0.68	0.70	0.65	0.56	0.59	0.66	0.49	0.90	0.79			

Appendix 3. Financial analysis of return on assets

N.	Y.C.	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	X	S.D	C.V
1	IIDP	4.69%	4.71%	-1.73%	3.65%	-4.23%	-9.49%	-4.10%	-12.29%	2.99%	2.85%	-8.41%	8.51%	-0.01	0.07	-6.19
2	IITC	5.81%	6.38%	5.72%	6.03%	7.02%	6.67%	8.64%	11.21%	20.32%	15.21%	30.52%	16.16%	0.12	0.08	0.66
3	IHFI	1.71%	2.19%	2.19%	2.19%	2.06%	2.06%	2.06%	5.05%	-4.63%	-2.31%	1.90%	2.58%	0.01	0.02	1.75
4	INCP	-1.72%	-2.14%	-8.27%	-3.02%	-3.00%	-1.70%	-6.53%	6.71%	10.42%	4.77%	6.11%	1.20%	0.00	0.06	24.06
5	IMOS	1.11%	3.27%	1.11%	1.19%	1.98%	9.06%	2.29%	2.12%	1.43%	1.24%	6.24%	2.46%	0.03	0.02	0.87
6	IMCI	1.86%	2.12%	4.33%	4.38%	2.55%	-3.99%	-1.19%	-5.04%	-8.12%	-3.41%	-1.26%	-1.07%	-0.01	0.04	-5.32
7	IFCM	5.90%	5.59%	5.59%	5.59%	5.59%	5.59%	-1.34%	-2.03%	8.76%	-2.25%	3.87%	1.96%	0.04	0.04	1.02
8	IKLV	19.48%	17.80%	10.40%	-4.03%	7.74%	6.94%	4.73%	9.75%	11.29%	2.65%	2.02%	2.19%	0.08	0.07	0.89
9	IMAP	2.57%	7.30%	3.81%	5.18%	6.34%	-2.73%	2.13%	8.01%	10.95%	-5.16%	-3.49%	-2.11%	0.03	0.05	1.88
10	IMIB	-14.10%	-10.03%	3.18%	2.62%	-4.46%	-4.58%	-3.36%	-1.46%	-2.39%	-1.47%	3.94%	8.81%	-0.02	0.06	-3.21
11	IRMC	12.16%	15.15%	16.69%	-5.07%	-4.74%	3.65%	6.86%	4.67%	2.34%	1.35%	5.36%	3.96%	0.05	0.07	1.31
12	IBPM	-9.30%	1.03%	3.54%	-3.31%	-8.36%	3.69%	2.49%	1.71%	1.76%	6.49%	7.67%	1.38%	0.01	0.05	7.17
13	IBSD	2.37%	11.24%	12.75%	11.16%	11.79%	12.72%	11.58%	12.42%	12.58%	12.77%	9.55%	9.69%	0.11	0.03	0.27
14	IKHC	-5.90%	-6.15%	-6.15%	-6.15%	-6.15%	-6.15%	9.31%	2.42%	5.58%	4.06%	10.76%	-2.99%	-0.01	0.07	-10.60
X		0.02	0.04	0.04	0.01	0.01	0.02	0.02	0.03	0.05	0.03	0.05	0.04			
S.D		0.08	0.08	0.07	0.05	0.06	0.06	0.05	0.07	0.08	0.06	0.09	0.05			
C.V		4.40	1.81	1.76	3.48	6.13	4.15	2.25	2.19	1.46	2.23	1.67	1.40			

Appendix 4. Financial analysis of return on equity

N.	Y.C.	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	X	S.D	C.V
1	IIDP	5.28%	5.35%	-1.87%	3.90%	-4.75%	-9.96%	-4.07%	-11.13%	2.76%	2.58%	-7.04%	7.00%	-0.01	0.06	-6.34
2	IITC	9.72%	10.07%	9.92%	9.27%	9.84%	9.74%	1.29%	1.64%	2.98%	2.28%	4.24%	2.51%	0.06	0.04	0.63
3	IHFI	1.54%	1.89%	1.89%	1.89%	1.29%	1.29%	1.92%	4.59%	-5.04%	-2.52%	2.48%	3.26%	0.01	0.03	2.12
4	INCP	-1.95%	-1.53%	-5.67%	-1.61%	-1.32%	-6.63%	-2.36%	2.65%	4.68%	2.82%	3.90%	7.30%	0.00	0.04	181.61
5	IMOS	1.28%	3.77%	1.27%	1.34%	2.46%	1.25%	2.77%	2.88%	1.75%	1.51%	7.25%	2.85%	0.03	0.02	0.67
6	IMCI	2.32%	2.15%	4.36%	6.55%	2.59%	-4.06%	-1.20%	-5.12%	-8.41%	-3.49%	-1.29%	-1.09%	-0.01	0.04	-7.74
7	IFCM	7.41%	7.67%	7.67%	7.67%	7.67%	7.67%	-1.58%	-2.43%	1.05%	-2.63%	4.50%	2.41%	0.04	0.04	1.11
8	IKLV	2.14%	1.93%	1.10%	-4.03%	7.63%	6.83%	4.90%	1.06%	1.26%	2.95%	2.23%	2.40%	0.03	0.03	1.19
9	IMAP	2.81%	9.57%	4.03%	5.82%	6.73%	-2.96%	2.26%	9.93%	1.38%	-4.98%	-3.79%	-2.45%	0.02	0.05	2.16
10	IMIB	-1.31%	-8.26%	2.13%	1.38%	-1.73%	-1.40%	-9.12%	-11.99%	-6.03%	-3.31%	7.53%	1.77%	-0.03	0.06	-2.19
11	IRMC	1.95%	2.51%	3.31%	-7.44%	-6.81%	4.26%	8.65%	8.19%	9.49%	5.11%	9.11%	7.98%	0.04	0.06	1.50
12	IBPM	-9.72%	10.43%	3.56%	-3.36%	-8.41%	3.82%	2.60%	1.73%	1.79%	6.59%	7.84%	1.51%	0.02	0.06	3.96
13	IBSD	2.42%	11.67%	13.68%	11.63%	12.34%	14.12%	12.17%	13.06%	13.87%	14.32%	10.67%	10.92%	0.12	0.03	0.27
14	IKHC	-6.11%	-5.77%	-5.77%	-5.77%	-5.77%	-5.77%	1.27%	3.22%	8.85%	6.76%	1.90%	-3.97%	-0.01	0.06	-3.91
X		0.01	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.04	0.03			
S.D		0.05	0.06	0.05	0.06	0.07	0.07	0.05	0.07	0.06	0.05	0.05	0.04			
C.V		3.93	1.64	1.89	3.01	4.26	5.29	3.75	5.48	2.79	2.62	1.42	1.36			

Appendix 5. Financial analysis of market value added

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	IIDP	-10.75%	0.52%	-0.02%	-3.06%	-6.50%	-25.25%	14.62%	14.31%	26.77%	24.86%	27.08%	37.43%
2	IITC	3.18%	1.89%	0.36%	0.34%	0.77%	3.50%	10.09%	9.51%	9.87%	11.81%	24.66%	24.02%
3	IHFI	5.42%	11.13%	9.37%	10.25%	18.77%	18.77%	10.01%	11.14%	6.99%	6.99%	-0.44%	-8.39%
4	INCP	92.84%	-10.23%	-25.64%	-19.95%	-44.41%	-34.38%	-38.62%	-35.26%	53.65%	52.56%	72.63%	36.81%
5	IMOS	-0.33%	6.27%	4.17%	5.49%	3.85%	7.66%	8.69%	5.01%	11.09%	10.69%	18.50%	18.90%
6	IMCI	-0.47%	0.84%	4.69%	8.45%	8.65%	9.11%	9.20%	9.56%	8.85%	9.11%	11.81%	20.20%
7	IFCM	4.96%	14.32%	11.51%	2.97%	1.59%	1.59%	2.57%	2.57%	2.56%	2.56%	19.37%	33.44%
8	IKLV	20.08%	33.14%	19.05%	2.13%	0.83%	-6.80%	-7.45%	3.87%	13.12%	5.65%	10.05%	6.33%
9	IMAP	27.01%	0.10%	-7.64%	-8.93%	-12.79%	-15.51%	-15.13%	-17.14%	3.08%	16.99%	87.43%	42.54%
10	IMIB	-12.33%	21.83%	43.06%	57.33%	54.76%	65.37%	54.92%	1.60%	-53.52%	-39.48%	-24.02%	69.52%
11	IRMC	3.96%	5.12%	3.65%	6.69%	11.44%	12.45%	10.96%	11.40%	10.28%	9.66%	10.71%	3.68%
12	IBPM	21.53%	11.63%	12.23%	5.07%	7.32%	6.63%	3.25%	2.55%	7.39%	7.49%	7.47%	7.43%
13	IBSD	1.94%	1.42%	10.16%	3.02%	7.98%	4.35%	7.72%	13.89%	9.94%	14.13%	17.32%	8.14%
14	IKHC	163.80%	25.46%	38.59%	130.52%	-103.24%	-145.26%	-11.65%	-23.12%	-26.31%	-59.18%	106.29%	4.09%

Appendix 6. Financial analysis of intrinsic value

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	IIDP	276.83%	292.01%	-102.43%	969.17%	-268.43%	-375.31%	-366.54%	-643.03%	295.17%	202.29%	-390.89%	211.16%
2	IITC	10.51%	10.12%	8.58%	5.36%	9.34%	0.80%	1.17%	1.53%	11.84%	11.94%	15.42%	13.38%
3	IHFI	24.09%	30.31%	30.31%	30.31%	30.31%	30.31%	30.31%	87.24%	-77.36%	-38.61%	-38.61%	-38.61%
4	INCP	-8.58%	-12.97%	-134.99%	212.67%	179.74%	85.52%	30.71%	-35.49%	-79.82%	-58.64%	-65.75%	-12.39%
5	IMOS	0.49%	0.34%	2.85%	4.89%	9.82%	5.21%	10.43%	13.80%	9.38%	9.30%	7.04%	26.45%
6	IMCI	60.00%	28.09%	14.32%	10.44%	3.17%	-2.77%	-0.30%	-3.35%	-0.74%	-2.96%	-2.96%	-2.96%
7	IFCM	14.77%	25.49%	25.49%	25.49%	25.49%	25.49%	-64.97%	0.07%	4.51%	-10.67%	18.72%	10.13%
8	IKLV	11.51%	11.03%	11.33%	7.90%	10.75%	11.09%	10.64%	9.16%	6.69%	3.32%	3.47%	3.10%
9	IMAP	-9.31%	-34.67%	-29.47%	-39.36%	-47.24%	2.07%	-15.94%	-7.08%	182.41%	26.64%	23.12%	48.84%
10	IMIB	10.55%	6.92%	18.09%	11.71%	14.76%	12.16%	7.93%	10.48%	5.31%	2.93%	-0.69%	-0.16%
11	IRMC	25.67%	23.57%	2.97%	-2.34%	-2.17%	0.13%	2.74%	7.79%	8.41%	10.31%	11.60%	11.32%
12	IBPM	0.00%	1.56%	10.91%	-9.92%	-22.89%	1.05%	0.71%	4.83%	5.09%	1.88%	53.11%	53.67%
13	IBSD	0.77%	4.10%	5.06%	4.63%	6.34%	7.95%	8.84%	10.31%	12.03%	14.49%	12.64%	12.84%
14	IKHC	38.45%	44.35%	44.35%	44.35%	44.35%	44.35%	-7.13%	-18.61%	-5.16%	-43.09%	-43.09%	-43.09%