Investigating the Relationship of Corporate Governance Mechanisms, Company Size, and Earning Management of Accepted Companies in Tehran Stock Exchange

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Abstract

Earning is the final result of economic activities and accounting processes, affected by different trends exerted by the managers of the companies. They try to change their financial earnings via different accounting methods. This study aims to investigate relationship of corporate governance mechanisms, company size, and earning management of accepted companies in Tehran stock exchange. Dependent variable includes discretionary accruals for measuring earning management, private ownership, institutional ownership, company size, and ratio of independent CEO is independent variable. Variables of financial leverage and systematic risk are control variables. Statistical population of the study is accepted companies of Tehran Stock Exchange. Using systematic sampling, statistical sample of the study includes 91 companies in Stock Exchange of Tehran, active from 2003-2013. To gather information, in theoretical section, library method was used; and for hypothesis test, financial statements of accepted companies in Tehran Stock Exchange were studied. To analyze data, correlation method and multiple regression were used.The results showed that private ownership, institutional ownership, and ratio of independent CEO have a negative and significant correlation with earning management. Also, company size has a positive and significant correlation with earning management.

Keywords: Earning management, ownership type, company size, CEO combination.

Introduction

Earning management is a controversial issue in accounting researches. Since investors concern earnings amount as an important factor in decision-making, these researches get great significance. Researchers have shown that low volatility and persistent earnings indicate quality. Thus, investors invest on the companies owning more consistent earnings with more confidence. Earning management occurs in the companies in which there are not qualitative mechanisms for supporting investors and controlling opportunistic behaviors of managers. Structure and efficiency of ownership, its type, company size, and combination of CFO as the mechanisms of corporate ownership in public joint stock companies are different; thus, the quality of monitoring managers' activities among different companies is different.

Considering ownership differentiation from management, the lack of a comprehensive theory despite accepted standards of accounting, conflict of benefits, and exclusive access of managers to some financial information and accruals' accounting regarding manager's discretion among different accounting methods, there is the likelihood of earnings management, and distracting people in their decision-makings. In fact, managers manage earnings to increase values of their companies in the framework of legal and accounting requirements. If compared, accruals are managed more than cash items. This doesn't mean that accruals are less credible. Instead, it reveals future growth opportunities and good performance of the company in the past .From the other hand, earning management can be useful since it can improve information value of earning with private information transfer of the firm to stockholders[1].

Thus, regarding the importance of earnings and its effects on economic activities, the relationship between earnings and ownership structures, the necessity of privatization principal in the country, and the findings of previous studies, this study aims to examine the effect of the trends of corporate ownership and company size on earning management of accepted companies in Tehran Stock Exchange.

Research Theories

Corporate ownership deals with the necessity of monitoring company management and differentiating an economic unit from its ownership and maintaining the rights of investors and stockholders. Corporate ownership system relies on improving responsiveness culture, trust, and accountability in managers and improving information transparency and limits opportunistic behavior of managers. Corporate governance mechanisms are regarded as a set of policies, methods, and measures complied and executed to supply interests of companies beneficiaries[2]. This improves the quality and

crediblity of financial reporting. In fact, corporate governance has been introduced to promote and enhance efficiency of allocating people's savings to high yield investments during last century[3]. The bigger the company size, the higher motivation the manager will have to manage earnings. With enlargement of the company, accountability of their managers towards wider demanders increases. Also, there are companies in capital market which bear losses some of which are trivial and the manager can manipulate digits or divert loss number to earnings. To minimize the taxes of the company, managers of big companies use accruals and in case of large size of company and high debt, tendency of managers to earnings management increases[4].

Earning management is a form of earnings management that may decrease accountability of earnings, affecting managers' performance negatively. In that case, they will contain less useful information. But, when opportunistic earnings management is controlled using monitor systems, accounting earnings become more reliable with more useful information. Earning management includes a wise and proper activity that includes a part of financial management process and reviving stockholders' value. Good earning management starts with running a company with perfect management in which management identifies reasonable budget and positively reacts to unexpected threats and opportunities and fulfils most or all of his obligations. Most of the time, good earning management refers to operational earning management in which the manager does some attempts for creating consistent financial performance (using acceptable and volunteer decisions)[5.] Generally, if the manager uses personal judgments and screen earnings in transferring his information to stockholders outside the organization about future earnings ability of the company in disclosed earnings based on histories, earning management will be efficient. But, if the manager uses personal judgments for his benefits and manipulate earnings, earning management will be opportunistic. In other words, if company value increases as a result of manager's action, earning management will be efficient; otherwise, earning management for the desires of managers will be opportunistic[6]. In order for an organization to succeed, both the organization and its parts have to share the same targets and means of achievements.

One important factor in testing earning management of the companies is estimating discretion factor and managers' ideas in identifying earnings. When debates on selection and decision-making rise, the basic question is the basis on which decision-making should be mounted[7]. Essentially, various criteria such as economic and/or financial and accounting ones may be used to evaluate the increase levels in shareholders' wealth and managers' performance[8].

Here, the concepts of earning and earning management appear. One important approach in estimating and measuring discretion of manager in earnings' identification is based on accruals as an index for identifying and discovering earning management in business units. Dechow et al. introduced modified model of Jones. He concluded that modified model of Jones has higher ability in discovering earning management of business units. In 1991, Jones offered a model for earning management of business units. In that model, sale earning is non- discretionary if earning is managed via discretionary incomes. However, this model eliminates a part of managed earnings which is its limitation. Dechow et al. modified Jones model, correcting income changes via reducing changes corresponding to receipts. In modified model of Jones, income changes are modified through the changes in received accounts. It is also supposed that all changes of credit sale results from earning management. Earnings management occurs in companies without quality mechanisms for supporting stockholders' benefits and controlling opportunistic behaviors of managers[9]. Thus, it is expected that corporate ownership mechanisms decrease earnings management opportunities, increasing earnings quality and offered information.

Backgrounds

Noravesh et al. used Jones model to examine earning management of accepted companies in Tehran Stock Exchange from 1997-2000. They examined earnings management using size, debt to capital ratio, and effective tax rate. They concluded that big companies in Iran manage earnings and increase it by enhancing debt. Findings showed that managers of big companies use accruals for reducing their companies' taxes. Bigger the companies, managers' tendency to earnings management increases[10].

In a study titled "earnings management and accounting quality in European private companies", Chen et al. considered 4 big auditing companies as qualitative auditors and examined earnings management in audited companies by these 4 companies and compared their earnings management. They concluded a significant correlation between earning management and accounting quality. High quality auditing in the companies with similar tax rules decreases earning management[11].

Aghai and Chalaki examined the relationship between corporate ownership features and earning management in accepted companies of Tehran Stock Exchange. In that study, corporate ownership was measured using ownership concentration, corporate ownership, CEO penetration, duty duality of CEO, CEO size, and CEO independence. To measure earnings management, abnormal accruals were used. They showed a negative and significant correlation between corporate ownership, CEO independence and earnings management. But, they found no significant correlation between CEO penetration, duty duality of CEO, CEO size and earnings management[12].

Hasas Yeganeh et al. studied the relationship of corporate ownership mechanisms, debt ratio, and earnings management. To calculate earnings, modified Jones model was used. They

found no significant correlation between corporate ownership mechanisms including number of CEO, number and efficiency of non-executive CEO, differentiating duties of directing manager from CEO or his membership in CEO, ownership structure, internal auditing, and earnings management. There was no significant correlation between debt ratio, company size, and earnings management[13].

Hypothesis: H1. There is a correlation between corporate ownership mechanisms, company size, and earnings management of accepted companies in Tehran Stock Exchange.

H2. Private ownership and earnings management of accepted companies in Tehran Stock Exchange are correlated.

H3.Corporate ownership and earning management of accepted companies in Tehran Stock Exchange are correlated.

H4. Company size and earnings management of accepted companies in Tehran Stock Exchange are correlated.

Subjects of the study include accepted companies in Tehran Stock Exchange from 2004-2013. To select the sample, systematic omission method was used. The companies with following features are selected as sample: i. Companies were manufacturing. ii. To select active companies, they should be selected before 2004 in Stock Exchange and have transactions from 2004-2013 without interruptions over 3 months. iii. Their fiscal year should end at the last month of winter. iv. Financial statements and notes of the companies should be available.

To gather data, extant documents of the companies including financial statements and reports of CFO using Tadbirpardaz and Rahavardnovin were studied. To gather data, the data were shown in Excel sheets and were tested using Eviwes software.

Methodology

This study is correlation, using descriptive methods with applied goals in capital market. In this study, variables of corporate ownership percentage, private ownership, percentage of non-executive CEO, financial expertise of CEO, and company size are independent variables; earnings management is dependent variable. Variables of financial leverage and systematic risk are control variables.

Earning Management: This variable is measured by discretionary accruals.

Discretionary accruals: Accruals don't have direct cash consequences and are the most important opportunistic earning management. They result from the difference of operational earning and operational activities cash. They have 2 types (discretionary and non- discretionary accruals). Discretionary accruals are representatives of earning management.

Discretionary accruals result from subtracting net operational cash flow from net operational earning.

$$ACCR = EARN – CFO$$

Non- discretionary accruals result from modified Jones model.

$$ACCR_{it} = \alpha_o + \alpha_1 [\Delta REV_{it} - \Delta REC_{it}] + \alpha_2 PPE_{i,t} + \varepsilon_{it}$$

Discretionary accruals result from subtracting total accruals from non- discretionary accruals.

Ownership type: i. Personal ownership: Personal ownership is the percentage of real stockholders ownership to total stockholders. ii. Corporate ownership: Corporate ownership is the percentage of institutes' ownership to total stockholders. iii. Company size: Company size is calculated via sale and assets. This study uses assets for company size. Total assets logarithm is company size measure.

$$Company \ size = log \ (total \ assets)$$

Independent CEO: Independent board member is a part time CEO without executive duty in the company[14].

Systematic risk variable and financial leverage are control variables of this study.

Financial leverage: These ratios examine the relationship between financial resources used by business units regarding debts or stockholders equity or their combination.

In this study, to measure financial leverage of the company, book value of long term debt was divided into total: FL=BV/TOTL ASSETS

Systematic risk: To measure systematic risk, company coefficient was used. Simply put, risk (β) of systematic sensitivity of each share identifies return rate which the shareholder of it should expect it.

To calculate β, Rahavadnovin software was used. Conceptual model of this study is shown in figure-1.

Descriptive findings: Descriptive statistics including private ownership (PO) , institutional ownership, financial expertise of CEO, company size, ratio of independent CEO (OUTD), discretionary accruals (DAC), financial leverage (FL), and systematic risk (β) are shown in table-1.

Number of year-company observations based on balanced combined data (91 companies in 10 years) is 910. Distribution index of these variables is low in different companies. Maximum standard deviation relates to company size and minimum standard deviation relates to financial expertise of CEO.

Testing data normality: For testing data normality, Kolmogorov-Smirnov (K-S) test was used. The results of testing data normality are shown in table-2. As seen in table-2, variables' significance level is above 0.05%; so variables of this study have normal distribution.

Correlation test: For data normality, Pearson correlation coefficient is used whose results for variables are shown in table-3. In table-3, correlations of variables at 1% error level and at 5% error level are shown.
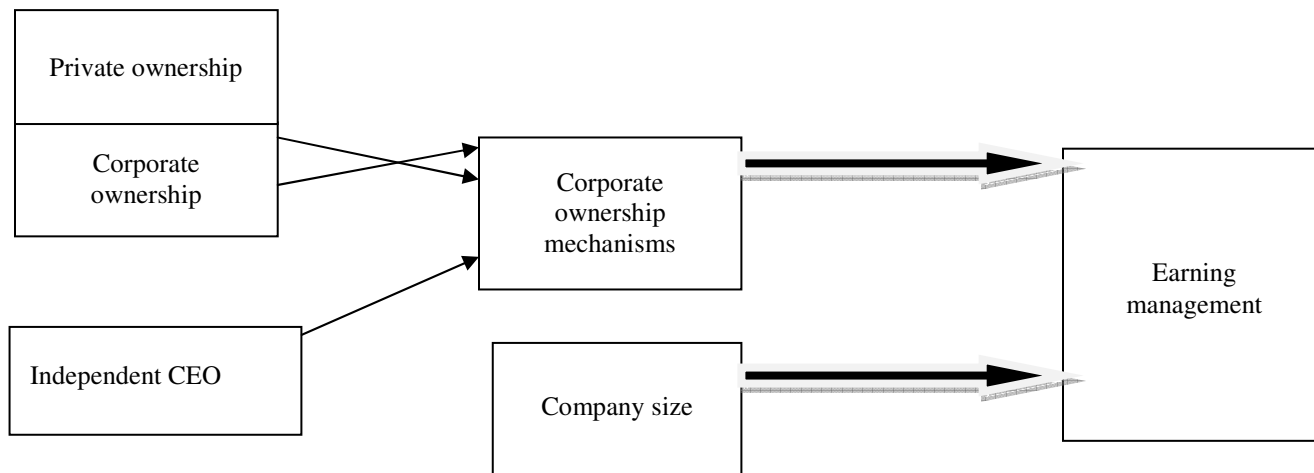

Figure-1
Conceptual model of the study

Table-1
Descriptive analysis of research variables

variable	Kurtosis	Skewness	Variance	Sd	Mean	Max	Min	No
PO	-.041	.318	.020	.14209	.535	1	0	910
INS	-.018	.294	.104	.13394	.364	1	0	910
SIZE	.468	.376	.025	.159593	13.776	22.74	-7.88	910
OUTD	.549	.109	.005	.072668	.501	0.885	0	910
DAC	.655	.966	.035	.15818	.14789	332980433	1245366331	910
FL	.354	.404	.008	.08683	.02983	3.937	-.250	910
BET	.109	-.513	.024	.15366	-2.021	4.99	-7.631	910

Table-2
The results of data normality test

Variables	Sig	Z
PO	.238	1.031
INS	**.**691	1.784
SIZE	**.**089	1.712
OUTD	.299	1.450
DAC	.642	1.741
FL	.582	1.777
BET	.094	1.235

Table-3
The results of Pearson correlation coefficient for the variables

Variable	BET	FL	DAC	OUTD	SIZE	FE	INS	PO
PO	.574	.763	-.325[**]	.775[*]	.847	.683	.345	1
INS	.574	.763	-.325[**]	.775[*]	.847	.165	1	.345
SIZE	.008	.196[**]	.407[**]	.385[*]	1	.447	.847	.847
OUTD	.157	.083	.180	1	.385[*]	.385[*]	.385[*]	.775[*]
DAC	.371[**]	.068[*]	1	.180	.407[**]	.407[**]	.407[**]	-.325
FL	.311	1	.068[*]	.083	.196[**]	.196[**]	.196[**]	.763
BET	1	.311	.371[**]	.157	.008	.008	.008	.574

[**]Significance at 1% error level, [*]significance at 5% error level.

Hypothesis test: To test hypotheses, multivariable regression was used. i. significance test of regression, ii. Since F statistics in all regression tables are below 0. 05, regression model for all hypotheses is significant. iii. co-linearity test. Co-linearity test of research variables is shown in table 4.

Table-4
Co-linearity test results

Model	Status index	Specific value	Row
1	1.000	5.295	1
	2.180	1.115	2
	2.358	.952	3
2	2.410	.912	1
	2.510	.840	2
	2.819	.667	3
3	2.967	.602	1
	3.317	.481	2
	5.466	.477	3
4	6.736	.453	1
	7.984	.449	2
	8.211	.441	3

Specific value shows internal correlation likelihood for the variables. Since all status indices are below 15, co-linearity of independent variable is rejected.

Testing the lack of self-correlation: Durbin-Watson statistics for each hypothesis shows self-correlation between variables. Since these statistics in regression tables have the values of 1.5-2.5, there is no self-correlation between variables.

Limer and Hausman test: First, it must be studied if there is heterogeneity or differences among cross-sections. If there is heteroscedasticity, panel data method will be used. Otherwise, combined data method with least squared approach is used for

model estimation. For this purpose, Limer test (F) is used. H0 implying homogeneity of intercepts (using combined data) is against H1 implying heteroscedasticity of intercepts (panel data method). Limer F results are shown in table-5.

Table-5
Limer F results (intercept homogeneity)

Test result	p-value	df	F	Models
H_0 is rejected	0.035	3	2.409	Model 1
H_0 is rejected	0.000	3	2.216	Model 2
H_0 is rejected	0.016	3	1.994	Model3
H_0 is rejected	0.000	3	1.728	Model 4

Based on table-5, cross-sections are heterogeneous. Thus, panel data is proper.

Results of H1 test: Results of H1 test, stating a significant correlation between private ownership and earning management are shown in table 6.

As seen in table 6, variables of private ownership and financial leverage have significant correlation with earning management (p-value<5%). The relationship between financial leverage and earning management is higher than other variables. Financial leverage has positive correlation with earning management while private ownership variable has a negative correlation with it. Based on achieved F value, measured regression pattern is significant. Regarding determination coefficient, these variables explain 74% of earning management changes. Durbin-Watson value is between 1.5 and 2.5. Thus, there is no self-correlation between variables.

Results of H2 test: Results of H2 test, implying the significant correlation between institutional ownership and earning management, are shown in table-7.

Table-6
Results of multivariable regression between private ownership and earning management

Variable type	Symbol	Sig	t	Coefficient	Variable
Dependent variable	Y	_	_	_	Earning management
Fixed value	**α**	0.001	-1.364	-8.378	Alpha
Independent variable	X1	0.000	-2.893	0.576*	Private ownership
Control variables		0.000	2.11	0/739*	Financial leverage
		0.332	6.179	0.745	Systematic risk
		_	_	1.708	d-w
		0.001	_	4.539	F
R		_	_	0.866	Correlation Coefficient
R Square		_	_	0.75	Determination Coefficient
Adjusted R Square		_	_	0.74	Modified Determination Coefficient

*significance level is at 0.05

As seen in table-7, institutional ownership variables and financial leverage have significant correlation with earning management (p-value<5%). Variables coefficients show that the correlation between financial leverage and earning management is higher than other variables. Financial leverage has significant correlation with earning management while institutional ownership variable has a negative correlation with it. Based on achieved F value, measured regression pattern is significant. Regarding determination coefficient, these variables explain 63.8% of earning management changes. Durbin-Watson value is 1.5 - 2.5. Thus, variables are not self-correlated.

Results of H3 test: Results of H3 test, implying the significant correlation between company size and earning management, are shown in table-8.

As seen in table-8, company size and financial leverage have significant correlation with earning management (p-value<5%). Variables coefficients show that the correlation between financial leverage and earning management is higher than other variables. Financial leverage variable and company size have

significant correlation with earning management. Based on achieved F value, measured regression pattern is significant. Regarding determination coefficient, these variables explain 66.2% of change in earning management. Durbin-Watson value is 1.5 - 2.5. Thus, variables are not self-correlated.

Results of H4 test: Results of H4 test, implying the significant correlation between independent CEO and earning management, are shown in table-9.

As seen in table-9, independent CEO and financial leverage have significant correlation with earning management (p-value<5%). Variables coefficients show that the correlation between financial leverage and earning management is higher than other variables. Financial leverage variable and independent CEO have significant correlation with earning management. Based on achieved F value, measured regression pattern is significant. Regarding determination coefficient, these variables explain 61% of earning management changes. Durbin-Watson value is 1.5-2.5. Variables are not self-correlated.

Table-7
Results of multivariable regression between institutional ownership and earning management

Variable type	symbol	sig	t	coefficient	Variable
Dependent variable	Y	–	–	–	Earning management
Fixed value	**α**	0.000	-1.874	-3.012	Alpha
Independent variable	X1	0.000	-1.598	-0.463*	Institutional ownership
Control variables		0/001	1.778	0.472*	Financial leverage
		0/294	3.496	0.387	Systematic risk
		-	–	2.112	Durbin-Watson
		0.000	–	7.946	F
R		–	–	0.799	Correlation coefficient
R Square		–	–	0.638	Determination coefficient
Adjusted R Square		–	–	0.631	Modified determination coefficient

*significance level is 0.05

Table-8
Results of multivariable regression between company size and earning management

Variable type	symbol	sig	t	coefficient	Variable
Dependent variable	Y	–	–	–	Earning management
Fixed value	**α**	0.000	1.294	1.261	Alpha
Independent variable	X1	0.001	4.157	0.771*	Company size
Control variables		0.000	4.112	0.863*	Financial leverage
		0.111	2.621	0.522	Systematic risk
		–	–	1.739	Durbin-Watson
		0.000	–	7.963	F
R		–	–	0.814	Correlation coefficient
R Square		–	–	0.662	Determination coefficient
Adjusted R Square		–	–	0.660	Modified determination coefficient

*significance level is 0.05

Table-9
Results of multivariable regression between independent CEO and earning management

Variable type	symbol	sig	t	coefficient	Variable
Dependent variable	Y	–	–	–	Earning management
Fixed value	**α**	0.000	1.571	1.980*	Alpha
Independent variable	X1	0.000	-1.417	-0.399*	Independent CEO
Control variables		0.002	3.192	0.470*	Financial leverage
		0.217	2.388	0.276	Systematic risk
		-	_	1.687	Durbin-Watson
		0.000	_	45.683	F
R		_	_	0.781	Correlation coefficient
R Square		_	_	0.61	Determination coefficient
Adjusted R Square		_	_	0.60	Modified determination coefficient

*significance level is 0.05

Conclusion

This study examines the relationship of corporate ownership mechanisms, company size, and earning management of accepted companies in Tehran Stock Exchange from 2004-2013. Dependent variable of the study includes discretionary accruals as the variable of measuring earning management, private ownership, corporate ownership, company size, ratio of independent CEO are independent variables. Financial leverage and systematic risk are control variables. The result of H1 test showing negative and significant correlation between private ownership and earning management agrees with agrees with Chang et al.[11] who found that if the manager has no motivation for increasing or decreasing earnings, private investors has no relationship with earning management. This finding agrees with with Sajadi et al.[14] but disagrees with Aghayi and Chalaki[12].

Concerning negative and significant correlation between institutional ownership and earning management, it is concluded that institutional investors have important role in strategic management of the companies. They can monitor managers with enough knowledge and experience in financial and technical fields. This can provide grounds for putting managers and stockholders' interests in the same line to maximize stockholders' wealth. They can solve brokers' problems for having scale economy and diversification. Thus, it seems that institutional investors as stockholders separate ownership and control while their increasing involvement in companies and ownership concentration is a way for monitoring earning management of the company. This result agrees with Sajadi et al.[14] but disagrees with Aghayi and Chalaki[12].

The result of H3 that showed a positive and significant correlation between company size and earning management agrees agrees with Sajadi et al.[14]. Based on this result, in bigger companies, higher earning management occurs.

As a result of H4 test which showed negative and significant correlation between independent CEO and earning management, it can be said that independent CEO are professional mangers with expertise in controlling decisions. Their duty is controlling activities along with agency problems among CEO and stockholders such as CEO rewards, monitoring replacement top managers. Based on literature, independent CEOs support stockholders' interest better than executive CEOs. In this way, independent CEOs control agency problem and reduce information asymmetry between manager and stockholders with more and high quality disclosure.

About the role of independent managers in efficient earning management, there are contrasting results .There can be different reasons for such discrepancies; the issue of earning management is rather new thus the researches on it are limited whose results vary for different time periods, methodologies, and used scales in them.

Suggestions from the study: Regarding the results of H1 and H2, officials are recommended to provide necessary infrastructures for privatization of companies and delivering them to institutional owners because based on the results of this study, the higher private ownership, the lower private ownership is likely to occur. Also, the investors who aim to enter capital market had better invest on the stocks of the companies whose private and institutional ownership is higher. For the competitiveness of the environment and limitation of financial resources and the effect of earning benchmark on price and stock value of companies, investors consider earning more than before. Moreover, based on the findings of this paper, in the companies with high private and institutional ownership, reported earnings are closer to real earnings. Thus, earning management is not for opportunistic purposes of the managers and stakeholders. Thus, earning management in these companies has efficiency aspect and investors can confidently invest in such companies.

Regarding H3 results, earning management occur in large companies. Thus, their stockholders should monitor managers' decisions and use credible auditing institutes for auditing stock companies; Because, this mechanisms prevent from earning management of managers.

Considering H4, employing independent CEO helps information transparency and decreasing information asymmetry between managers and stockholders. Therefore, stockholders should use independent and expert members in their CEOs.

Suggestions for future studies: Since the hypotheses of this study have not considered companies, differentiating industries, it is suggested that earnings managements of the companies be considered regarding their industries and their features. This study used discretionary accruals for measuring earnings management .Future studies can use other criteria for measuring earnings changes.

Since the ability of Jones model and its modified version in dividing discretionary and non-discretionary accruals is doubted, there is the likelihood of incorrect classification of discretionary and non-discretionary accruals. Future studies can use other models such as modified Casnik model with higher predictability.

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