ECONOMETRIC MODEL OF CORPORATION INCOME

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ABSTRACT
the article describes the econometric model of corporation income that was based on the statistics of relevant information of exchange markets and on the financial statements of the companies. The result was revealed the dependence of corporation revenue by indicators such as their market capitalization. The work presents recommendations for maximizing the corporation revenue that was based on the above indicators.

Introduction. Any corporation sets many goals. One of them is profits increasing. Such a trend can be achieved in three ways: by reducing costs (other things being equal), by increasing the income (also other things being equal), or by fulfilling the first and second conditions simultaneously. This article examines aspects of increasing the income of the corporation as one of the possible ways to increase its profitability. Since the market capitalization of a corporation reflects the total value of its shares, it can be assumed that the issue of new shares or an upturn in their value (in other words, a tendency to increase market capitalization) may affect the corporation's capabilities (increase its capital, improve reputation, strengthen its status, and affect a number of its other aspects), and therefore lead to an increase in its income.

The relevance of this topic is reflected not only in the constant desire of corporations to increase their income, but also in the need to further develop their own economic zone of transnational companies. This orientation is also positively reflected in Russia's particularly active desire to develop its own production through import substitution, and this issue has become especially relevant over the past few years[10].

Measuring methods and factors of increasing corporate income. Maria Dedkova in her article "The Capitalization of the Company: The Theoretical Aspect" (Rus. “Капитализация компании: теоретический аспект”) describes the advantages of a strategy for increasing equity capital, or in other words, strategies for increasing the market capitalization of a corporation[4]. The economist notes that the financial result of the company is ensured by its passive balance. The increase in liabilities in turn leads to an increase in its market value and, as a result, to strengthen the financial stability of the corporation, increase its marketing attractiveness and increase its credit rating. All this contributes to the favorable development of the corporation, increase its revenue, and also provides additional opportunities for expansion.

The corporation generates revenue from its core business and other sources of income. In accordance with the Order of the Ministry of Finance of the Russian Federation of July 29, 1998, No. 34n (the last amending document of December 24, 2010 No. 186n), organizations (including corporations) are obliged to provide an opportunity for interested persons to familiarize themselves with their annual accounting statements[1]. Also, the income statistics of large corporations periodically publish various exchange markets and financial portals, for example, Investing.com [9].

Thus, as a dependent variable in this model, the corporation income indicator is used, calculated on the basis of the annual published financial statements of the corporation and published

statistics of financial portals. As an independent variable, the market capitalization of corporations is taken, also calculated with the help of the annual public accounting and financial portal statistics [2].

Econometric model of the dependence of corporate income on its market capitalization. To construct an econometric model, the dependent (corporate income; Y) and independent (market capitalization; X) variables were determined[6]. This study uses a sample consisting of data from fifteen large corporations. To determine the most accurate and optimal model, it is necessary to consider different types of dependencies between the selected variables: linear, power, exponential, exponential, hyperbolic and inverse types of dependencies. The results of this analysis are presented in Table 1 [5].

The calculations showed the linear type of dependence as the most reliable, since the coefficient of determination (79 %) and the calculated value of Fisher (52.01) are several times higher than the analogous indicators of other types of dependencies. Thus, between the corporation's income and the value of its real capitalization, a linear dependence is found, and the change in the corporation's income is determined by a 79 % of changing in its market capitalization. The simulation showed that the linear equation of this dependence has the following form: y = 0.958x. Heteroscedasticity in the residues is absent. Graphical representation of the linear dependence of the corporate income on its market capitalization is shown in Figure 1, and the graphic representation of the remnants of this model is shown in Figure 2.

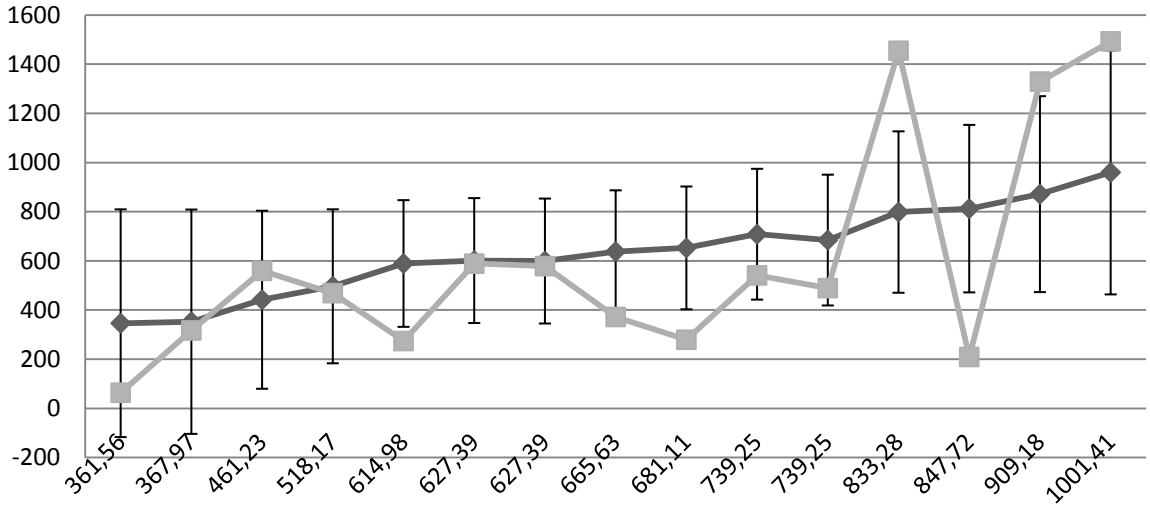

Fig. 1. The income linear dependence of the corporation from its market capitalization (the dark line is y-calculated and bright line - y-factual)

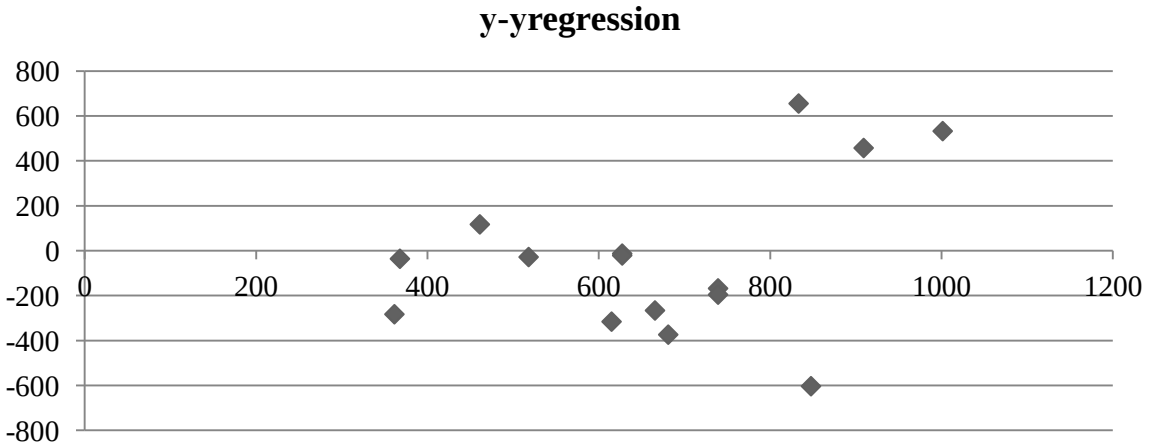

Fig. 2. Graph residues

Table 1. Results of econometric modeling of corporation income dependence from its market capitalization

Type of dependence	The form of equation	Reliability of assessments parameters		Reliability equations		Check for heterosce-dasticity	Elasti-city of X	Error approximations
		ta0	ta1	R^2	F	$p_{x|e|}$		
linear	y=0,958x	1,5407375	3,490644755	79 %	52,01080064	0,228571429	1,11 %	0,850673533
power	$y=0,006x^{1,7343}$	1,3980941	3,093341003	43 %	9,568758558	-0,460714286	1,73 %	0,587541503
indicative	y=70,5*1,003^X	6,7666145	3,09771822	42 %	9,595858171	0,046428571	1,88 %	0,671520694
exponential	y=70,5*e^0,0028X	6,7666145	3,09771822	42 %	9,595858171	-0,239285714	1,88 %	0,600651025
hyperbolic	y=1401,85-486669/X	2,5898313	4,341130512	34 %	6,707226121	-0,025	0,96 %	0,650876674
inverse function	y=1/(0,01-0,00001X)	3,0875666	2,190549728	27 %	4,798508109	-0,153571429	2,14 %	3,774832033

The constant parameter of the linear model is insignificant, which is explained by the inability of the corporation with zero value of its real capitalization to generate revenue. Dependence of this model is such that when the market capitalization of the corporation changes by 1 %, its income will change by 1.11 %, which corresponds to the elasticity index. Thus, a corporation with a market capitalization equal to one billion rubles will bring an income equal to 958 million rubles. However, as the growth rate of the market capitalization increases, its income will increase at a rapid pace and ultimately may exceed its capitalization. But here we must remember the law of diminishing returns[7].

Capital Growth Strategy. The conducted modeling showed that the increase in the real capitalization of the corporation leads to an increase in its income. Therefore, using a certain part of its income to increase capital, the corporation can contribute to an increase in market capitalization, which in turn will again lead to an increase in its income. This strategy can be called a kind of "chain reaction", since each subsequent stage implies even greater enrichment than the previous one. The limits of this enrichment are limited only by the law of diminishing returns, but here one should not forget about the possibility to increase capital at the expense of intangible assets, and various force majeure situations that can spoil the financial position of the corporation. Also, should not forget about investors (brokers, traders) whose beliefs and expectations primarily affect the market capitalization of the corporation.

In the event of an unfavorable period (a decline in the market capitalization of the corporation and a corresponding decrease in its income), it is possible for the corporation to turn to borrowed capital, but here it is realistic to take into account its future solvency.

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