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ECONOMETRIC MODEL OF FACTORS INFLUENCING THE CHANGE IN COMPANY CAPITALIZATION

Abstract

The article considers the applied aspect of using econometric analysis methods of time series to assess factors that directly affect the value of a company. The basic mathematical apparatus is used to test hypotheses and build econometric models in time series analysis. By determining the factors that affect the level of capitalization, hypotheses about the significance of these estimates are assessed, and the level of the impact and consequence on key performance indicators as the company's net revenue is determined. The global economy demonstrates high inflation rates in the south and western parts of the world. Therefore, the author identifies the dependence that links the inflation rate and the level of turnover. A regression model of the relationship between changes in revenue and the level of return on invested capital is considered. Any investor seeks to increase the company's value, so it is important to assess the main factors that affect this value.

Keywords: econometric analysis, time series, capitalization, return on invested capital, company value.

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КОМПАНИЯНЫҢ КАПИТАЛДАНУЫНЫҢ ӨЗГЕРІСІНЕ ӘСЕР ЕТЕТІН ФАКТОРЛАРДЫҢ ЭКОНОМЕТРИЯЛЫҚ МОДЕЛІ

Аңдатпа

Мақалада компания құнына тікелей әсер ететін факторларды бағалау үшін уақыттық қатарлардың эконометрикалық талдау әдістерін қолданудың қолданбалы аспектілері қарастырылады. Негізгі математикалық аппарат гипотезаларды тексеру және уақыттық қатарларды талдауда қолданылатын эконометриялық модельдерді құру үшін қолданылады. Капиталдандыру деңгейіне әсер ететін факторларды анықтау арқылы осы бағалаулардың маңыздылығы туралы гипотезалар бағаланады және олардың компанияның таза кірісі сияқты негізгі көрсеткішке әсер ету деңгейі анықталады. Жаһандық экономиканың қазіргі сәті оңтүстікте де, батыста да инфляцияның жоғары қарқынын көрсетеді. Сондықтан автор инфляция деңгейі мен тауар айналымы деңгейі арасындағы байланысты анықтайды. Табыстың өзгеруі мен инвестицияланған капиталдың табыстылығы деңгейі арасындағы байланыстың регрессиялық моделі қарастырылады. Кез келген инвестор компанияның құнын арттыруға ұмтылады, сондықтан оған осы құндылыққа әсер ететін негізгі факторларды бағалау маңызды.

Түйін сөздер: эконометрикалық талдау, уақыт қатары, капиталдандыру, инвестицияланған капиталдың қайтарымы, компания құны.

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ЭКОНОМЕТРИЧЕСКАЯ МОДЕЛЬ ФАКТОРОВ, ВЛИЯЮЩИХ НА ИЗМЕНЕНИЕ КАПИТАЛИЗАЦИИ КОМПАНИИ

Аннотация

В статье рассматривается прикладной аспект использования методов эконометрического анализа временных рядов для оценки факторов, напрямую влияющих на стоимость компании. Используется основной математический аппарат для проверки гипотез и построения эконометрических моделей, применяемых в анализе временных рядов. Определяя факторы, влияющие на уровень капитализации, оцениваются гипотезы о значимости этих оценок и определяется уровень их воздействия на такой ключевой показатель, как чистая выручка компании. Текущий момент глобальной экономики демонстрирует высокие темпы инфляции, присутствующие как на юге, так и западе. Поэтому автор выявляет зависимость, связывающую уровень инфляции и уровень товарооборота. Рассматривается регрессионная модель зависимости между изменением выручки и уровнем возвратности на инвестированный капитал. Любой инвестор стремится нарастить стоимость компании, поэтому для него важно оценивать основные факторы, влияющие на эту стоимость.

Ключевые слова: эконометрический анализ, временные ряды, капитализация, возвратность на вложенный капитал, стоимость компании.

Main provisions

Investors invest in a business, expecting that at a certain point, when this business is sold, its value will increase, and the invested capital will enlarge, compensating for the expected risks. This approach works for all types of investments through investments in bonds, derivatives, and the purchase of company shares. Such investments can be directed to an M&A transaction. An M&A transaction is usually described as combining or acquiring companies to obtain strategic advantages, increase market share, develop new products, and increase the business's market capitalization.

Introduction

An M&A transaction can occur in various ways, including reorganization, purchase of assets, purchase of shares or shares of companies. In the Russian Federation, in current conditions of the mass existence of international investors in the market, the most common way of investing is to invest in shares or shares of companies [1]. From the point of view of business owners (shareholders), the benefit of a merger or acquisition is the increase in the capitalization of the newly created company compared to the capitalization of its components. Such an increase is often called the synergy effect [2]. To organize an M&A transaction, the net cash flow must be forecasted, and the capitalization growth must be estimated. Capitalization refers to the valuation of a business, which can be measured using various methods.

In the current period, when the world is experiencing a financial crisis and the securities market shows substantial uncertainty, investors prefer to invest in real business, which is not subject to such intense changes as stock exchange indices. It should be noted that during the 2007-2008 crisis, the American International Group Index fell by 30%, which caused an increase in equity costs by one percent [4, p. 19]. A company is assessed to change the level of capitalization.

One of the ways to assess the value of a company is through the assessment of the cost of shares on the stock market and the number of shares issued in circulation. Capitalization involves increasing equity capital in the process of business operation. Suppose the company is closed, and its shares are not listed on the stock market. In that case, capitalization can be measured through the growth of profit invested in additional capital - newly created means of production. Also, the level of capitalization can be measured through the amount of fixed assets and working capital on a specific date or through the increase in retained earnings for a certain period, often equated to free cash flow.

This article will define the main factors influencing capitalization and provide a synergy effect. Factors that influence changes in the level of capitalization include:

- Expected revenue growth.
- Growth in net operating profit less adjusted taxes (NOPLAT).
- Expected market share.
- Level of return on invested capital and others.

Expected return on invested capital and revenue growth affect the dynamics of cash inflows from operating activities. The cost of invested capital and the cash flow from operating activities determine the company's value. One of the main factors determining the company's value is the volume of revenue, which should be analyzed in more detail.

Significant factors that influence revenue growth include:

- Increase in profitability provided by changes in prices;
- The structure of products and services in the portfolio and their change per changes in consumer needs.
- Organic growth due to expansion of the market segment. - Organic growth through market share growth.
- Inorganic growth through acquisition of this growth (M&A).

Since the company's revenue is one of the key factors influencing the change in capitalization, we propose to test the hypothesis about the relationship between the inflation rate and the company's revenue growth. Since the inflation rate is usually a targeted parameter of the macroeconomic policy of many countries and is monitored, it is not apparent that the growth of inflation can have a favorable effect on revenue growth since this contradicts the law of demand for everyday goods. However, as noted, the rise in oil prices in 1997-2007 led to an average annual growth in revenue in the oil industry by 13% [4, p. 432].

Such a dependence may occur in certain industries. We want to analyze how the inflation rate affects the volume of turnover for essential goods. At the current moment of economic development, all countries are experiencing a significant increase in inflation, which affects revenue change. The inflation rate is given in Table 1 [7].

Table 1. Inflation rate as of 24.07.2024

Countries	*Inflation (%)*
Eurozone	*2,6*
Germany	*2,3*
Netherlands	*3,7*
France	*2,3*
USA	*2,9*
Russia	*9,1*
Turkey	*61,8*
Kazakhstan	*8,6*
China	*0,5*
Uzbekistan	*10,5*

Research methodology

Hypothesis and model 1

Null hypothesis: Inflation rate and revenue are independent factors.

$$H_0 : a_i = 0$$

Alternative Hypothesis

The alternative hypothesis is that revenue directly relates to the inflation rate. According to the law of demand, when prices for a product or service rise, revenue growth in the industry increases, regardless of the decrease in sales in physical units.

$$H_1 : a_i \neq 0$$

To test the hypothesis, the following model is considered:

$$Y_t = a_0 + a_1 Y_{t-1} + a_2 X_t + \varepsilon_t \quad (1)$$

Where

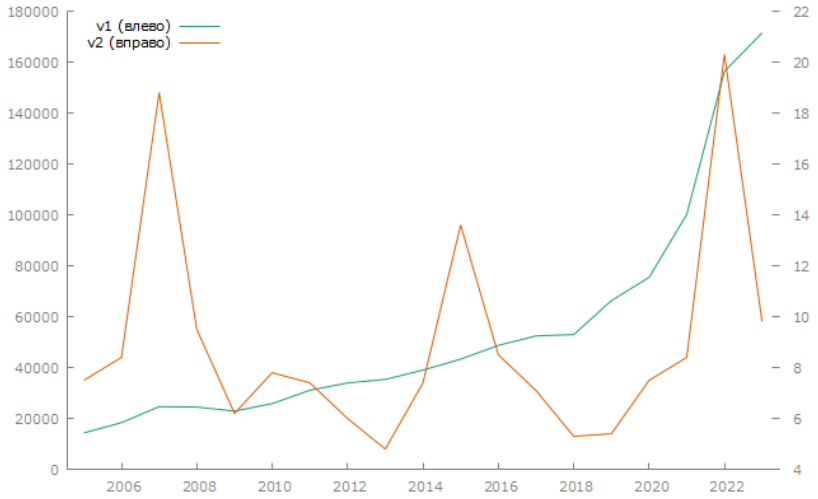
Y_t – is the change in revenue in period t in %;

Y_{t-1} – is the change in revenue in period (t-1) in %;

X_t – is the inflation rate in period t.

To test the hypothesis, we use the inflation index in Kazakhstan and the change in revenue from the FMCG industry as an example. Standard notations are used in international literature; we will adhere to these notations. The model's results are given below.

The hypothesis test is based on the mechanism of time series analysis. In particular, this method predicts the value of the next period based on the past and current value. It involves averaging the data so that the non-systematic components of each case or observation cancel each other out [9]. It should be noted that for real-time series, autoregressive moving average (ARMA) models are of primary importance in practice not only because of their modeling capabilities but also because they form the core of countless further time series models [10]. Since the selected data represent a dynamic series, it is necessary to conduct the Dickey-Fuller test to determine the series' stationarity. Figure 1 shows a graph of the dependence of revenue and the inflation rate in the Republic of Kazakhstan using the example of FMCG industry data.



V1- Revenue(green); V2 – Inflation (orange)

Figure 1. Dynamics of inflation and revenue in the FMCG industry

We will use time series and econometric models to assess the relationship between the selected factors. Econometric analysis provides essential information for economic forecasting, policy assessment, and financial analysis [8]. Analyzing the figure, we can conclude that the series under consideration are non-stationary since the average values of revenue and inflation change at each point in time, and the amplitude of fluctuations in revenue and inflation values by periods are different. We see that the data are not linear. Nonlinear dynamic models of means, variances, and covariances are regularly estimated in financial economics, macroeconomics, and other disciplines [11].

Since the series is a time series, to build forecast models on them, we will conduct the Dickey-Fuller test to determine the stationarity of the series. The test results for the revenue variable.

Augmented Dickey-Fuller test for the variable v1- revenue

Test without a constant

Model: (1-L)y = (a-1)*y(-1) + e

first-order autocorrelation coefficient for e: -0,080

Dickey-Fuller OLS regression test, observations from 2006-2023 (T = 18) were used

Dependent variable: d_v1

coefficient v1_1 0.198936

st. error 0.0432907

t-statistic 4.595

p-value 1.0000

Test with constant including one lag for (1-L)v1

Model: (1-L)y = b0 + (a-1)*y(-1) + ... + e

The results of the augmented Dickey-Fuller OLS regression test are presented in Table 2.

Table 2. Augmented Dickey-Fuller OLS regression, using observations from 2007-2023 (T = 17). Dependent variable: d_v1

	coefficient	*standard error*	*t- statistics*	*p-value*	
const	*−9767,87*	*7358,34*	*−1,327*	*0,2056*	**
v1_1	*0,486754*	*0,217737*	*2,236*	*1,0000*	***
d_v1_1	*−0,670657*	*0,550497*	*−1,218*	*0,2433*	***

Test with constant and trend including 2 lag(s) for (1-L)v1

Model: (1-L)y = b0 + b1*t + (a-1)*y(-1) + ... + e

1st order autocorrelation coefficient for e: 0.039

Regression parameters are presented in Table 3.

Table 3. Augmented Dickey-Fuller OLS regression observations from 2008-2023 (T = 16) were used. Dependent variable: d_v1

	coefficient	*standard error*	*t- statistics*	*p-value*
const	*−11582,2*	*8902,63*	*−1,301*	*0,2199*
v1_1	*1,90181*	*1,06774*	*1,781*	*1,0000*
d_v1_1	*−2,42164*	*1,51970*	*−1,593*	*0,1394*
d_v1_2	*−1,92875*	*1,26562*	*−1,524*	*0,1557*
time	*−3761,87*	*3212,91*	*−1,171*	*0,2664*

In all three cases, the null hypothesis of non-stationarity of the series at a significance level of 5% is accepted since the probability is more significant than 0.05, the series is non-stationary without a constant, with a constant, with a constant and a trend in the levels of the series. To reduce the series to a stationary form, we will move on to checking the test on the first differences for the revenue variable- instead of revenue, its absolute change will be used. The differentiation operation is often used to move to a stationary series. The differentiation operation or the first finite difference of the series is denoted as

$$\Delta X_t = X_t - X_{t-1} = (1-L)X_t, \quad (2)$$

where L – is the lag operator.

The idea is to consider its increment over one period instead of the original series.

Test without constant including 2 lag(s) for (1-L)d_v1

Model: (1-L)y = (a-1)*y(-1) + ... + e

The results of the model are presented in Table 4.

Table 4. Augmented Dickey-Fuller OLS regression, using observations 2009-2023 (T = 15). Dependent variable: d_d_v1

	coefficient	*standard error*	*t- statistics*	*p-value*	
v1_1	*1,26073*	*0,710648*	*1,774*	*0,9822*	**
d_v1_1	*−2,11659*	*1,01185*	*−2,092*	*0,0584*	***
d_v1_2	*−2,02581*	*0,823263*	*−2,461*	*0,0300*	***

Testing the hypothesis for stationarity revealed that the revenue data series can be stationary without a constant at the level of first differences with a lag of 2. Thus, considering the hypothesis about the relationship between revenue and inflation, we will analyze the dependence of the rate of change in revenue on the inflation rate. The results of the regression model of revenue dependence on inflation are given in Tables 5; 6.

Table 5. Model 1: OLS observations from 2005-2023 (T = 19) were used. Dependent variable: Netrevenue

	coefficient	*standard error*	*t- statistics*	*p-value*	
const	*−14137,5*	*5069,83*	*−2,789*	*0,0131*	**
Inflation	*1569,47*	*494,683*	*3,173*	*0,0059*	***
Netrevenue_1	*1,18601*	*0,0600333*	*19,76*	*<0,0001*	***

Table 6. Statistical characteristics of model 1

Mean dependent variables	*54587,60*	*Std. Error of Dependent Variable*	*44089,23*
Sum of square residuals	*1,20e+09*	*Std. Error of Model*	*8661,255*
R-square	*0,965696*	*Corrected R-Square*	*0,961408*
F(2, 16)	*225,2093*	*P-Value (F)*	*1,92e-12*
Log likelihood	*−197,5929*	*Akaike Criterion*	*401,1859*
Schwartz criterion	*404,0192*	*Hennan-Quinn Criterion*	*401,6654*
parameter rho	*−0,019837*	*Durbin's h-statistic*	*−0,089589*

Results of the study

Model 1Results

The results of constructing the autoregressive model gave the following result:

$$\hat{Y}_t = \underset{(5069,83)}{-14137,5} + \underset{(0,060)}{1,18601}\, Y_{t-1} + \underset{(494,693)}{1569,47}\, X_t$$

Analyzing the model specification, we see that the null hypothesis about the absence of a relationship between revenue and the inflation rate is rejected at the 95% confidence interval. Therefore, the alternative hypothesis about the relationship between revenue changes and inflation rates is accepted. All estimated parameters are significant. At the same time, we see that an increase in inflation by 1 percent leads to an increase in revenue by 1,569.47 million tenge per year. Thus, inflation has a favorable effect on revenue growth for FMCG companies. Also, the current period's revenue change is affected by changes in revenue of the previous period, although this effect is insignificant. Estimating the constant, we can conclude that in the FMCG industry, on average, there is a decrease in revenue over the period under study, which does not contradict the economic meaning of the law of demand. As noted above, the investor focuses on an increase in the company's value, which is directly related to the return on invested capital. In turn, revenue growth is functionally related to a change in capitalization.

Changes in revenue and return on investment on invested capital affect investment profitability:

$$Inv\ rate = \frac{Kgrowth}{ROIC} \quad (3)$$

Note that the return on invested capital is the company's return on each monetary unit invested in the business. The return depends on the amount of invested capital and the rate of return on investment. The rate of return on investment is determined as follows:

$$ROIC = \frac{NOPLAT}{Inv\ capital} \quad (4)$$

NOPLAT – net operating profit less adjusted taxes (is EBIT after adjusting for deferred taxes. The tax is adjusted to reflect the un-leveraged earnings of the firm without considering the effects of tax debt). Having determined the economic dependence, we will test the hypothesis about the relationship between changes in revenue and the level of return on invested capital.

Hypothesis and model 2

Null hypothesis

Change in company revenue and return on invested capital are independent factors.

$$H_0 : b_i = 0$$

Alternative Hypothesis

$$H_1 : b_i \neq 0$$

The hypothesis is that there is a pattern between revenue growth and the level of return on invested capital. If ROIC grows, the revenue growth rate will be higher than the ROIC value.

The following model is considered:

$$Y_t = b_0 + b_1 Y_{t-1} + b_2 X_t + \varepsilon_t \quad (5)$$

Where Yt – return on invested capital t (%). Xt – change in revenue in period t (%);

Before testing the hypothesis, since we use time series, it is necessary to check that the series of both variables are stationary. To assess ROIC, we use company data, including net operating profit before taxes (NOPLAT) and the size of investment capital, calculated based on the company's balance sheet and representing the sum of equity and long-term debt capital. The ROIC time series graph (Fig. 2) shows that the series "does not fluctuate" around a specific value. While there is a clear growth trend, the series "looks" like a non-stationary one.

Figure 2. Return on investment for the FMCG industry

We will use a dynamic data series with a time cross-cross structure to assess the dependence and test the hypothesis. In this regard, a time series model is used to test the hypothesis. Since it is necessary to forecast future periods to assess the level of capitalization, we use a moving average model, the so-called ARIMA model, based on the Box-Jenkins methodology [5, p. 234].

To confirm the stationarity of the series, we will conduct tests using the extended Dickey-Fuller test with a constant without a trend. We will determine the maximum possible lag, according to the Schwert rule for determining the maximum number of lags in the ADF test depending on the length of the series T.

$$P_{\max} = A(\frac{T}{100})^{1/4} \quad (6)$$

Where expression 5 defines the integer part of Pmax, c = 12 or 4 depending on the length of the series. Based on the Schwartz criterion, the optimal number of lags from one to one determined by Pmax is selected [6, p. 6].

$$P^* = \arg\min(I_k) \quad (7)$$

$$I_k = \ln(\hat{\sigma}_k^2) + \frac{k^* C_T}{T} \quad (8)$$

Where,

$$\hat{\sigma}_k^2 = \frac{\sum_{t=k+1}^{T} e_t^2}{T-k} \quad (9)$$

$$C_t = \ln(T) \quad (10)$$

For the Schwartz criterion, the value according to the formula 10 is used, and Ct=2 for the Akaike criterion.

Dickey-Fuller test for ROIC, sample size 20
null hypothesis of a unit root: a = 1
Test with constant
model: (1-L)y = b0 + (a-1)*y(-1) + e
estimate for (a - 1): -0.199386
test statistics: tau_c(1) = -1.21331
p-value 0.6473
first-order autocorrelation coefficient for e: 0.060
The regression of Dickey-Fuller test is given in Table 7.

Table 7. Dickey-Fuller test regression. OLS, observations 2005-2024 (T = 20) used Dependent variable: d_ROIC

	coefficient	*standard error*	*t- statistics*	*p-value*	
const	*0,0591478*	*0,0393262*	*1,504*	*0,1499*	**
ROIC_1	*−0,199386*	*0,164332*	*−1,213*	*0,6473*	***

The test results for a series of ROIC (Y1) values of 20 observations, where the p-value is below the test statistic, allow us to reject the null hypothesis of the presence of a unit root and conclude that the series is stationary. Since the Y1 series is stationary, an autocorrelation function is defined. Fig. 3 shows a correlogram of the model residuals for the ROIC (Y1) data series. As can be seen from Fig. 1, the coefficients of the autoregressive function gradually converge to zero. For the partial autoregressive function, only the first coefficient is significant, i.e., the correlogram is characteristic of the AR(1) process.

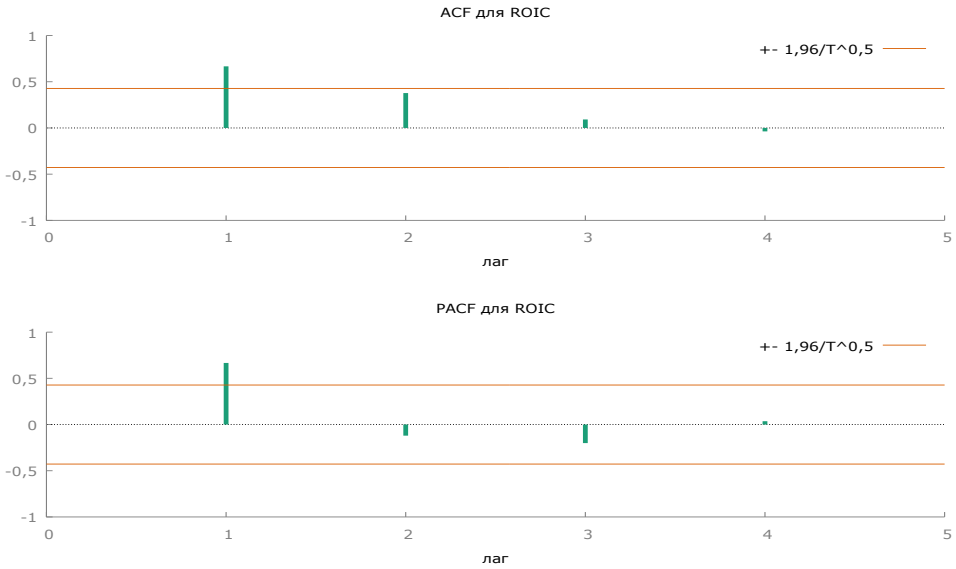


Figure 3. Correlogram of the model residuals for the ROIC (Y1) series

Let's estimate the AR(1) model

$$Y_t = \phi_0 + \phi_1 Y_{t-1} + \varepsilon_t \tag{11}$$

The results of the model evaluation are presented in tables 8;9.

Table 8 Model 2: ARMA, observations used 2004-2024 (T = 21.) Dependent variable: ROIC

	coefficient	*standard error*	*z*	*p-value*	
const	*0,230990*	*0,0651654*	*3,545*	*0,0004*	***
phi_1	*0,742299*	*0,205074*	*3,620*	*0,0003*	***
theta_1	*0,0985725*	*0,280955*	*0,3508*	*0,7257*	

Table 9. Statistical characteristics of model 2

Average of changes	*0,222590*	*Std. Error of Dependent Variable*	*0,121406*
Average of innovations	*0,006784*	*Std. deviation of innovations*	*0,078520*
R-square	*0,564566*	*Corrected R-squared*	*0,541648*
Log likelihood	*23,15887*	*Akaike Criterion*	*−38,31775*
Schwartz criterion	*−34,13966*	*Hennan-Quinn Criterion*	*−37,41099*

As can be seen from the model estimation results for the time series Y1, the constant and the coefficient at the first autoregressive lag are significant at the 1% level. Thus, the series Y1 is an AR(1) process described by the model:

$$\hat{Y}_t = \underset{(0,065)}{0,2309} + \underset{(0,205)}{0,7423} Y_{t-1}$$

We will conduct a similar test for the revenue growth rate indicator. Figure 4 shows the revenue change rate time series for the period 2004-2024.

Figure 4. Dynamics of revenue change rate in the FMCG industry

The revenue change rate series, like the ROIC series, also "does not fluctuate" around a specific value, and there is no apparent trend, so we can conclude that the series is "similar" to stationary. To confirm stationarity, we will conduct the Dickey-Fuller test. The test results are given below.

Test with a constant
model: (1-L)y = b0 + (a-1)*y(-1) + e
estimate for (a - 1): -0.700618
test statistics: tau_c(1) = -2.96837
p-value 0.05531
1st order autocorrelation coefficient for e: 0.101
The Dickey-Fuller test regression is given in Table 10.

Table 10. Dickey-Fuller test regression. OLS, observations 2005-2024 (T = 20) used Dependent variable: d_dNetrevenue

	coefficient	*standard error*	*t- statistics*	*p-value*	
const	*0,106343*	*0,0518670*	*2,050*	*0,0552*	*
ROIC_1	*−0,700618*	*0,236028*	*−2,968*	*0,0553*	*

By analyzing the p-value, which is lower than the test statistics, we can reject the null hypothesis about the presence of a unit root and conclude that the series is stationary. Since the Y1 series is stationary, an autocorrelation function is defined for it. Fig. 5 shows a correlogram of the model residuals for a series of data on revenue changes (Y1). Based on Fig. 5, we can conclude that all the coefficients of the autoregressive function are close to zero, and there are no significant coefficients, i.e., the correlogram is characteristic of the AR(0) process.

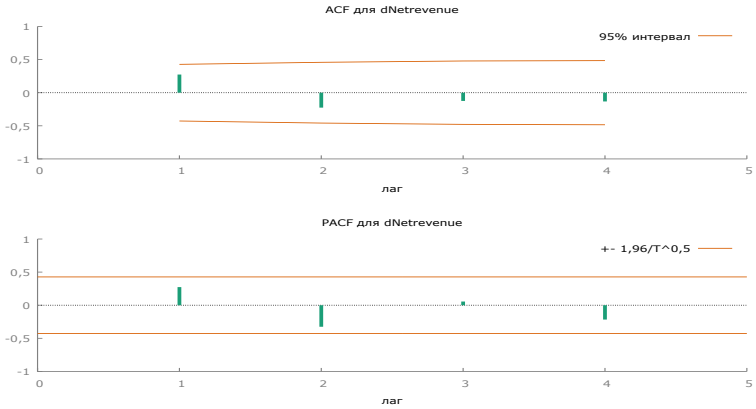


Figure 5. Correlogram of model residuals for a series of data on revenue changes

The results of the AR(0) model estimation are presented in Tables 11;12.

Table 11. Model 3: ARMA, using observations from 2004-2024 (T = 21). Estimated using AS 197 (exact MP method)

	coefficient	*standard error*	*t- statistics*	*p-value*	
const	*0,151678*	*0,0454976*	*3,334*	*0,9164*	***
ROIC	*0,588915*	*0,275395*	*2,138*	*0,0178*	**
ROIC_1	*0,854509*	*0,144137*	*5,928*	*<0,0001*	***

Table 12. Statistical characteristics of model 3

Average of changes	*0,156150*	*Std. Error of Dependent Variable*	*0,150832*
Average of innovations	*0,001614*	*Std. deviation of innovations*	*0,133380*
R-square	*0,688094*	*Corrected R-squared*	*0,6880094*
Log likelihood	*12,29501*	*Akaike Criterion*	*−18,59003*

Thus, the Yt series is an AR(0) process described by the model:

$$\hat{Y}_t = \underset{(0,045)}{0,1517} + \underset{(0,275)}{0,5889}\, Y_t + \underset{(0,144)}{0,0855}\, Y_{t-1}$$

Both model estimates are significant.

Model 2 Results

Having tested hypotheses about the stationarity of time series, we will check the hypothesis about the relationship between the return on invested capital and changes in revenue dynamics. The model's results are presented in Tables 13 and 14.

Table 13. Model 4: OLS, observations from 2005-2024 (T = 20) were used. Dependent variable: ROIC

	coefficient	*standard error*	*t- statistics*	*p-value*	
const	*0,00426748*	*0,0400402*	*0,1066*	*0,9164*	
dNetrevenue	*0,278655*	*0,106216*	*2,623*	*0,0178*	**
ROIC_1	*0,854509*	*0,144137*	*5,928*	*<0,0001*	***

Table 14. Statistical characteristics of model 4

Mean dependent variables	*0,228823*	*Std. Error of Dependent Variable*	*0,121064*
Sum of square residuals	*0,085490*	*Std. Error of Model*	*0,070914*
R-square	*0,693004*	*Corrected R-Square*	*0,656886*
F(2, 16)	*19,18763*	*P-Value (F)*	*0,000044*
Log likelihood	*26,17208*	*Akaike Criterion*	*−46,34415*
Schwartz criterion	*−43,35695*	*Hennan-Quinn Criterion*	*−45,76102*
parameter rho	*0,133080*	*Durbin's h-statistic*	*0,778464*

Using the model of the dependence of the return on capital on the rate of change in revenue and the return itself of the previous period, we obtained the following results:

$$\hat{Y}_t = \underset{(0,040)}{0,004} + \underset{(0,144)}{0,8557}\, Y_{t-1} + \underset{(0,106)}{0,279}\, X_t$$

Thus, the return on invested capital of the current period is affected by the return on invested capital of the previous period and the rate of change in revenue. The ROIC of the previous period has the strongest impact. An increase in return by one percent leads to an increase in return on the current period by 0.8557%. The impact of revenue changes is less significant. Thus, an increase in revenue by one percent leads to an increase in return by 0.279%.

Conclusion

In conclusion, we will present the main findings on the matter under study. They are as follows.

Firstly, capitalization is the level of business value. It can be real or market-driven. Market capitalization, usually estimated through the price of shares on the stock market, is not equal to real capitalization, estimated on the basis of the company's book value. Nevertheless, the level of market capitalization is used to assess the company's position in the market and the willingness of investors to purchase its securities. Secondly, the key factors influencing capitalization are: 1) Growth in profitability ensured by price changes. 2) The structure of products and services in the portfolio and their change per changes in consumer needs. 3) Organic growth due to expansion of the market segment. 4) Organic growth due to market share growth. 5) Inorganic growth due to the purchase of this growth (M&A). Thirdly, during economic crises, the most challenging economic factor to be managed is the inflation rate factor. According to the microeconomic approach, a price rise leads to decreased turnover volume. Turnover is one of the key factors influencing the level of capitalization. We proposed a hypothesis about the relationship between inflation and the rate of change in net revenue. This hypothesis confirmed this dependence and determined that the relationship between inflation and the company's net revenue in the long term is direct. A certain level of inflation positively affects the growth rate of net revenue.

Fourthly, the level of return on invested capital is directly related to the rate of change in revenue and this level of the previous period. Therefore, in our research, using an econometric model, we confirmed a direct relationship between the level of return and the rate of change in revenue.

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