Financial Aspects of Companies Sustainable Growth

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Abstract. The article is devoted to the problems of evaluating the companies growth. The authors study the theory and methodology of approaches to the concept of sustainable growth and variations of factorological dependencies that form the value of decision-making indicators to ensure the necessary growth depending on the companies financial results. The authors justify the choice of indicators and growth models based on criteria, the main of which is the rate of profit reinvestment as the basis of companies financial stability. The level of profit reinvestment primarily depends on the life cycle of companies, and the choice of the optimal growth rate, determined by the growth model, is the basis for sustainable development of companies. The universality of the models is confirmed by the possibility of their application regardless of the availability of companies shares, dividend payments and organization forms, which allowed the authors to reduce the restrictions on the sample. The models were tested on the example of the largest mining companies. The dynamics of average values of growth indicators reflected changes in general market trends, which confirms that the growth of large system-forming companies is the main factor in the growth of the state’s economy as a whole.

Keywords: Growth · Profitability · Reinvestment · Sustainability

1 Introduction

The difficult economic situation in most countries of the world in the process of countries’ exit from the conditions of self-isolation and struggle with COVID-19 leads to the need to study both theoretical and practical aspects related to the opportunities for sustainable growth. In particular, it is interesting to determine the factors that influence the size of sustainable growth. Sustainable growth is the ensuring the stability of companies’ operations. This is the maximum growth in which the company does not exhaust its resources, remains solvent with stable financial results, and many companies restrain growth to ensure financial stability. Every year, interest in the sustainable growth increases, as evidenced by the author’s research (Table 1).
Due to the pandemic and the significant losses suffered by the economies of many countries, the need for research on this issue is increasing, as evidenced by the dynamics of analytical queries of the index on the research subject. The evaluation of search query analytics suggests that the most frequently used query on the Internet is “sustainable growth”, less often “sustainable economic growth”. On last place is the query “sustainable business growth”. The presented correlation matrix in Table 2 shows that there is a close correlation between the three queries.

### Table 1. Number of publications on the topic “sustainable growth”, in the journals of the Russian research citation index basis

| Years (for the 1st quarter) | Sustainable growth | Sustainable economic growth | Years | Sustainable growth | Sustainable economic growth |
|----------------------------|--------------------|-----------------------------|-------|--------------------|-----------------------------|
| 2020                       | 667                | 279                         | 2015  | 1604               | 623                         |
| 2019                       | 2615               | 1048                        | 2014  | 1206               | 441                         |
| 2018                       | 2428               | 915                         | 2013  | 804                | 289                         |
| 2017                       | 2304               | 898                         | 2012  | 672                | 321                         |
| 2016                       | 1941               | 738                         | 2011  | 517                | 159                         |

Source: authors.

### Table 2. Correlation matrix of search query analytics by research topic for June 2019–June 2020

| The query name         | The indicator name            | Column | 1   | 2   | 3   | 4   | 5   | 6   |
|------------------------|-------------------------------|--------|-----|-----|-----|-----|-----|-----|
| Sustainable growth     | Absolute value of demonstrations | 1      | 1   |     |     |     |     |     |
|                        | Relative value of demonstrations | 2      |     | 0.974 | 1   |     |     |     |
| Sustainable economic growth | Absolute value of demonstrations | 3      |     | 0.962 | 0.947 | 1   |     |     |
|                        | Relative value of demonstrations | 4      |     | 0.910 | 0.941 | 0.976 | 1   |     |
| Sustainable business growth | Absolute value of demonstrations | 5      |     | 0.911 | 0.913 | 0.898 | 0.873 | 1   |
|                        | Relative value of demonstrations | 6      |     | 0.793 | 0.849 | 0.791 | 0.816 | 0.961 | 1   |

Source: authors.

This dependence is also confirmed by data from the Russian research citation index basis. The correlation between the number of publications in the two directions is 0.99. Therefore, we can say that research in this direction is relevant. Objects differ in it. Some researchers study in detail the process of sustainable growth at the macro level, while others study in more detail the dynamics of indicators and factors at the level of
individual companies. Due to the growing relevance of this problem against the background of instability of the financial environment of the economy, as well as the discrepancy between concepts and growth models, the authors conducted a study to determine the most optimal, universal and visual models from the point of view of managerial decision-making.

2 Methodology

The methodology for assessing sustainable business growth is developing quite actively. The origins of the problem are analyzed in the work of Penrose [15]. Williamson continued to develop this topic [20]. In the 1960s, Boston Consulting Group conducted a study that allows us to assess the level of sales growth rates of a company with limited financial resources, taking into account a number of assumptions [21]. Subsequently, Higgins suggested a formula that allowed us to clearly show the variables that determine the company’s sustainable growth [7]. The study proved that certain financial policies of the company are not compatible with the growth rate that the business wants to achieve and provided recommendations for its transformation in order to achieve the planned results. Higgins used a steady growth rate to determine the maximum sales growth rate that can be achieved by a business using a specific financial policy. Subsequently, in management, a steady growth rate became one of the tools for long-term financial planning and analysis of the company’s growth. Later, Firer came to the conclusion that a stable growth rate is the maximum growth in the conditions of constant financial parameters of its activities [4]. The indicator of the level of sustainable growth allowed us to determine the possibility of maintaining sales growth without additional funding [3]. This enabled Mukherjee, Som to confirm that a steady growth rate is a sales growth rate that a company can maintain without raising additional capital or changing its financial policy [12].

Johnson and Soenen in their research concluded that there is a relationship between a high coefficient of sustainable growth and effective working capital management, as well as the uniqueness of the business in large companies [9]. Amouzesh, Moeinifar, Mousavi studied the Iranian financial market in 2006–2009 and found a link between the company’s steady growth rate, liquidity, and business performance [1]. Based on the research, the authors argued that the actual growth rate differs from the steady one due to the influence of ROA and P/B ratios.

In India, Pandit and Tejani’s research on sales in the textile industry proved that their growth should be supported by a constant level of profitability, asset turnover, financial leverage and retained earnings [14].

A study conducted by Rahim and Saad on the example of 229 public companies in the ASEAN countries in 2001-2012 showed that the profitability of an organization is directly related to its steady growth rate. To prove this fact, the researchers proposed a linear regression model that includes such variables as debt ratios (DTER), capital (TE), total debt (TD), ROA, EPS, and ROC [17].

Continuing with earlier studies, Huang and Zhang identified variables that influence the sustainable growth of companies. They studied 28 exchange-traded companies since 2010 to 2013. The results of their research showed that the company’s ability to
Sustain growth is determined by its profitability, ability to generate cash, ability to pay for its obligations, productivity, ability to grow (the growth rate of net assets, reinvestment) [8].

Utami and Gunawan in their research on a sample of 25 companies of the Indonesian stock exchange for 2010-2013 showed a positive impact on the steady growth rate of the share price and return on equity of the organization [19]. While dividend payments have a negative impact on sustainable growth.

Studying the activities of the distributor company for 2010–2014. Hafid revealed a significant correlation between the company’s sustainable growth indicator (SGR) and the ROL variable reflected in profit margin and total current assets (TATO) [5].

Hartono and Utami studied the sustainable growth of companies in the context of sustainable business development. The sample volume was 10 companies for 2010–2013, 5 companies each from the Kehati Sustainable and Responsible Investment Index (SRI-Kehati) and IDX30 Index [6]. As a result, a positive correlation was found between the steady growth rates of companies in the SRI-Kehati index and their return on assets and liquidity. Companies included in the IDX30 Index showed a positive relationship between stable growth rates and return on assets. It was also found that the growth rates for companies vary significantly depending on the index in which they are included. Companies that are included in different indices have significantly different return on assets. The results of the t-test indicate a slight difference in the average value of the price and profit of organizations included in both indexes.

Mubeen and Hanif studied the growth stability of 27 non-financial companies in Pakistan from the KSE 100 Index for 1988–2011. The companies belonged to 6 industries. The authors developed a Fixed Effect regression model. The study proved that domestic growth is different from the sustained growth of companies in Pakistan due to the impact of leverage. It was also found that companies with liquidity and cash-generating flows had higher internal growth, but these variables did not affect the steady growth of organizations [11].

Rahim used a sample of 226 companies in Malaysia from 2005–2015 to study the relationship between a steady growth rate of companies and efficiency. He found a positive relationship between the debt ratio, equity ratio, total asset turnover, and the size of a firm with a stable growth rate [16].

Indian researchers Mukherjee, Som conducted an empirical analysis to identify the relationship between liquidity (Cash Flow Ratio), profitability and financial leverage with a stable growth rate of the organization. A sample of 115 companies from 2010–2015 was used for this purpose. As a result, there was a significant positive correlation between liquidity, profitability and leverage with the steady growth rates of Indian companies [12].

Steblyanskaya, Wang, Ryabova, and Razmanova analyzed the four largest oil and gas companies in 2005–2016. According to the results of the study, there was a correlation between three indicators: the rate of sustainable growth, share capital ratios and net profit growth [18]. This made it possible to link the concept of sustainable growth with environmental protection, energy conservation and social factors. As a result, non-financial factors were added to the model. It allowed us to determine the dependence of the rate of sustainable growth on environmental ratings and the profitability obtained from social responsibility expenditures.
Nastiti, Atahau, and Supramono studied 136 companies from the Indonesian stock exchange for 2010 to 2017. They proved that working capital has an impact on the profitability of organizations, but its management does not directly affect sustainable growth. At the same time, the authors point out that there is an indirect impact on profitability. Based on it, the authors argue that working capital needs to be managed to increase profitability. This will allow for sustained growth [13].

Junaidi, Sulastri, Isnurhadi, and Adam in their study focused on sustainable business growth, arguing that increasing profits does not matter. As a result, the authors presented an empirical study on the impact of the finance loan liquidity indicator (LFR), the asset quality indicator for non-performing loan (NPL), and the operating cost-to-operating income efficiency indicator (BOPO) concerning the SGR [10]. In contrast to previous studies, they selected 22 banks, i.e. financial organizations. Their study period was 5 years and included 132 observations. Based on the built regression model, the authors concluded that LFR, NPL, and BOPO had a significant negative impact on SGR. Then, the authors confirmed the conclusions of previous researchers on the importance that SGR acquires due to its relationship with the bank’s strategy for further growth and further expansion of the business with maximum preservation of internal and external sources of financing.

It should be noted that the indicator of sustainable growth was also used by scientists to check the degree of companies stability, as evidenced by studies [2]. Thus, various countries are conducting research on the relationship of SGR with a number of financial and non-financial parameters. Most of the studies make it possible to understand the direction and closeness of the connection. Others emphasize the presence of an industry-specific aspect that affects research. For Russia, the issue of sustainable business growth is particularly acute, since the existing terminology and methodology is of a translation nature and is not fully adapted to the existing legal acts. This is also proved by studies of exclusively large businesses in Russian works on this issue.

3 Results

Making a decision about profit distribution depends on the company’s life cycle. In particular, a growing business requires large investments, often made at the expense of equity and profit.

According to the authors, the key factor in managing growth is the rate of reinvestment of profits. In this case, the shareholders are the remaining bidders for profit. The authors selected several models that reflect the growth of the company, primarily due to the level of reinvestment of profits.

\[
SGR = \frac{RR \times ROE}{1 - (RR \times ROE)}
\]

where, RR is the rate of profit reinvestment; ROE – return on equity.

From this formula, the following conclusions follow: there is a direct relationship between return on equity (ROE) and SGR, that is, if any factor affects one, then similar
changes will occur for the other, and the maximum rate of sustainable growth occurs at \(RR = 1\). It is also worth noticing that an increase in the growth potential of the organization can be achieved with the correct financial policy of the organization’s managers. It will be expressed in terms of the ratio of the organization’s funds, that is, financial leverage, interest and tax burden, as well as in terms of profit reinvestment rates. This effect can be seen in the following formula:

\[
SGR_2 = \left( \frac{ROIC}{E} + \frac{D}{E} \right) \times (ROIC - I(r)) \times RR \times (1 - T)
\]

where, \(I(r)\) is the average interest rate on loans; \(D\) - debt capital; \(E\) - net worth; \(ROIC\) - return on invested capital; \(T\) - tax rate.

To evaluate financial policy, a calculation formula can be applied that takes into account the return on sales and asset turnover, without taking into account the impact of interest and tax burdens. This model uses the profit reinvestment (capitalization) ratio and financial leverage.

\[
SGR_3 = ROS \times AT \times FL \times RR
\]

where, \(ROS\) is return on sales; \(AT\) is the number of asset turns over the period; \(FL\) is financial leverage.

Expanding the organization’s activities and increasing business activity is one of the main long-term strategies of the organization, according to which the organization’s management faces an important task – to develop and implement cost-effective operational, investment and financial strategies. But it is worth noticing that growth does not always lead to achieving the main goal, namely, increasing the cost of the organization. In addition, excessive growth that is not consistent with real opportunities can lead to bankruptcy of the organization. Effective management of the growth rate that leads to an increase in the value of the enterprise requires a balance and alignment between the key indicators of its investment, financial and operating activities, as well as an effective compromise between profitability, financial stability and the development pace. Otherwise, the chosen development strategy may not only lead to an increase in the cost of the organization, but also destroy it. An effective method for solving this very difficult problem is the Robert Higgins model, which provides a quantitative formula for calculating the optimal growth rates for each organization.

\[
SGR = \frac{\left( \frac{NP}{SAL} \right) \times \left( \frac{1 - DIV}{NP} \right) \times \left( 1 + \frac{D}{E} \right)}{\left( \frac{A}{SAL} \right) - \left( \frac{NP}{SAL} \right) \times \left( 1 - \frac{DIV}{NP} \right) \times \left( 1 + \frac{D}{E} \right)}
\]

where, \(NP\) is net profit; \(SAL\) - sales volume; \(DIV\) - the dividends; \(D\) - debt capital; \(E\) - net worth; \(A\) - assets.
The main problem with applying the Higgins model is the availability of information about company dividends, however, many companies do not pay dividends or information about dividends is closed to analysts. To overcome these problems, the authors suggest that the company’s net profit is directed only to the payment of dividends and reinvestment. Then:

$$\left(1 - \frac{\text{DIV}}{\text{NP}}\right) = \text{RR}$$

In the development of the Higgens model, by converting it and accepting an additional condition, the authors propose a new type of formula, the main factor in making a decision in this case will be the rate of reinvestment of profits:

$$\text{SGR}_4 = \frac{\left(\frac{\text{NP}}{\text{SAL}}\right) \times \text{RR} \times \left(1 + \frac{D}{E}\right)}{\left(\frac{A}{\text{SAL}}\right) - \left(\frac{\text{NP}}{\text{SAL}}\right) \times \text{RR} \times \left(1 + \frac{D}{E}\right)}$$

Thus, the authors selected 4 indicators for the study, the key factor of which is the rate of reinvestment of profit or the share of profit on the balance sheet (increase in retained earnings for the period) in the company’s net profit. The authors tested the growth models using the example of the largest mining companies.

4 Discussion

Correlation analysis of the dependence of models that reflect the company’s growth (SGR1, SGR2, SGR3, SGR4) and financial indicators that characterize the financial results of companies in the context of methodological developments of the above authors showed that the strongest direct impact on the company’s sustainable growth is the change in the growth of net assets (0.86). At the same time, the net asset growth indicator itself was not used for calculating sustainable growth coefficients, therefore this fact proves the hypothesis put forward by the authors about the feasibility of using the profit reinvestment indicator in the SGR4 model.

Based on the selected coefficients, the average performance of the largest mining companies was evaluated in dynamics.

As can be seen from Fig. 1, the dynamics of SGR1, SGR2, SGR3, SGR4 over 20 years is similar. Meanwhile, the largest amplitude is demonstrated by the SGR4 proposed by the authors, which once again proves the scientific and practical significance of this indicator, as, according to the authors, it covers the largest number of factors. This growth coefficient shows the maximum effect of the actually reinvested profit. In addition, positive correlations were found between sustained growth and return on assets (0.82), debt ratio (0.72), and financial leverage (0.68).
In general, previous studies confirm the obtained results (Huang and Zhang [8], Utami and Gunawan [19], Rahim [16], Mukherjee and Som [12], Nastiti, Atahau, and Supramono [13]). In addition, the modification of the company growth model proposed by the authors significantly increased the sample, due to the fact that the calculation of SGR4 became possible for companies that do not have dividend payments. The sample for the base under consideration increased by 25% when using the indicator of reinvestment rate proposed by the authors. At the same time, the use of this indicator will allow you to use SGR4 regardless of the company’s legal form.

5 Conclusion

The authors’ extensive research on the methodological and practical aspects of this problem has led to several conclusions of scientific significance:

– growth and sustainable development of companies have been the subject of research of many scientists since the middle of the last century, however, the evolutionary processes of economic development, changes in the business environment, business organization models, and priority areas of decision - making by company management require further study and development of methods for defining these concepts and adapting them to decision-making models based on the possibilities of universality and availability of incoming information,
– exception in the indicators of dividend payments growth allows you to recognize the indicator SGR4 as universal and appropriate to use for assessing the growth of the company, regardless of the organizational and legal form and the availability of quoted shares on the market,
– when making a decision about financing a company and evaluating its growth, an important parameter is the possibility of self-financing, as the basis for financial stability and independence. One of the company’s own sources of financing is the
company’s profit, in particular, retained earnings, a portion of net profit that is used for refinancing. The distribution of net profit largely depends on the life cycle of the company, the ability to attract capital from investors, owners and creditors. From this point of view, the indicators chosen by the authors for evaluation are the most clearly reflect the growth, primarily due to reinvestment of profits,

- the mining industry is a system-forming capital-intensive industry, the financial results of which take a significant part in the formation of the country’s GDP (gross domestic product), which gives grounds to say that the testing of growth indicators on the example of this industry is acceptable and reasonable, reflecting the true patterns of economic development of companies,

- one of the problems of companies’ growth is to meet the potential growth based on the possibility of providing the necessary sources of financing, timely and fully respond to the company’s obligations. Risk-free growth can be attributed to the one in which the return on invested capital will be higher than the fee for using the attracted capital. If the company’s growth level matches the average market growth of industry and macro economic indicators, we can say that the risk level of investment in a particular company will correspond to the average market risk. If the company’s growth is higher than the average market, then restraining regulatory mechanisms should be taken.

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