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INNOVATIVE TOOLS OF A HOLDING PORTFOLIO ANALYSIS: POSITIONING MATRIX

Abstract. In the modern holdings, different businesses are at different stages of the life cycle, at different types of markets, so it is necessary to consider the fact of updating, dying of businesses and to conduct the reasonable business portfolio restructuring. In other words, it is expedient for the cost of business to some extent to be protected for the owner. The purpose of this paper is to develop a matrix of portfolio analysis, which can be used to determine the degree of protection of the holding's business portfolio from the perspective of competitive position of businesses in the portfolio.

The author suggested the principle of balanced portfolio that is based at golden section. The definition of the value security level from the standpoint of competitive position of businesses in the portfolio is given, namely: we assume the cost of business is secured from the competitive position if the business growth rate is equal to or higher than the market growth rate and market share remains at the same level or increased over the time. We propose an algorithm for determining the degree of business portfolio security in terms of its competitiveness. Matrix of positioning is suggested, that allows making decisions regarding the structure of portfolio from the perspective of secured value for the owner.

Keywords: holding; business portfolio; balanced portfolio; secured value; positioning matrix.

JEL Classification: D61, L22, M31

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ІННОВАЦІЙНІ ІНСТРУМЕНТИ ПОРТФЕЛЬНОГО АНАЛІЗУ ХОЛДИНГУ: МАТРИЦЯ ПОЗИЦІОНУВАННЯ
Анотація. У статті представлено розроблену автором матрицю портфельного аналізу, за допомогою якої можна виявити ступінь захищеності бізнес-портфеля холдингу з позицій конкурентоспроможності бізнесів, які входять у портфель. Запропоновано алгоритм визначення ступеня захищеності бізнес-портфеля з позицій його конкурентоспроможності, а також принципи формування збалансованого портфеля, що ґрунтуються на «золотій пропорції». Складено матрицю позиціонування, яка дає змогу приймати рішення залежно від структури портфеля з метою захищення його вартості.
Ключові слова: холдинг, бізнес-портфель, збалансований портфель, захищена вартість, матриця позиціонування.

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ИННОВАЦИОННЫЕ ИНСТРУМЕНТЫ ПОРТФЕЛЬНОГО АНАЛИЗА ХОЛДИНГА: МАТРИЦА ПОЗИЦИОНИРОВАНИЯ
Аннотация. В статье представлена разработанная автором матрица портфельного анализа, с помощью которой можно определить степень защищенности бизнес-портфеля холдинга с позиций конкурентоспособности бизнесов, входящих в портфель. Предложен алгоритм определения степени защищенности бизнес-портфеля с позиций его конкурентоспособности, а также принципы формирования сбалансированного портфеля, основанные на «золотой пропорции». Составлена матрица позиционирования, использование которой позволит принимать решения в зависимости от структуры портфеля с целью обеспечения защищенности его стоимости.
Ключевые слова: холдинг, бизнес-портфель, сбалансированный портфель, защищенная стоимость, матрица позиционирования.

Introduction. Business owner always has an idea of what yield he wants to have of his invested capital. It may not always be determined by a specific rate of yield (desires may be unrealistic), but you can determine the level of minimum income below which the owner may want to sell the business. To achieve the desired level of profitability in the short and long term businesses portfolio in holding shall consist of businesses generating sufficient cash flows and operating in mature or emerging markets and businesses which currently do not create value, but are in the emerging markets or themselves can create a new market that will compensate the lack of cash flow in the future. To maintain a certain level of risk business portfolio should be diversified. Different businesses are at different stages of the life cycle, at different types of markets, so it is necessary to consider the fact of updating, dying of businesses and to conduct the reasonable business portfolio restructuring. In other words it is necessary for the cost of business to some extent to be protected for the owner.

In practice, the optimal combination of all these components is very rare. World number of conglomerates, i.e. companies with the diversified portfolios of businesses, from the middle of the last century has significantly decreased – many corporations have restructured their portfolios in favor of single-industry specialization. Conglomerates, established on the post-Soviet territory also begin to think about it (see, e.g., R. Fazliakhmetov (2008) [1]). Single-industry specialization allows attracting funding with the great success and is considered to improve the manageability of the company, as one branch is clearer for investors than a conglomerate, but it does not give a ground for owners to be confident in the degree of holding value protection. In Ukraine among holdings conglomerates are dominating; their occurrence (respectively, the formation of portfolios) was in the 90s of the last century. Next ten years observed the redistribution of property several times and only the last few years the owners began a purposeful optimization of their portfolios (but not in favor of specialization).

Analysis of these features allows making the conclusion about the practical necessity for the modern holding to form the balanced portfolios for holdings to create value rather than destroy it.

Brief Literature Review. Basically when it comes to the security of the business, the majority of experts imply the legal protection of the assets. There are many researches and practical developments, allowing to some extent to protect the pro-

perty and provide the most favorable conditions for the operation from the standpoint of taxation for holders (see, e.g. S. Zenkova [2]). As it relates to the legal aspects, we will not deal with these issues. From an economic point of view the value protection is spoken for the most part when it comes to the system of internal control and risk management. In business practice, it is fixed in the special regulations (see, for example, Policy of internal control and risk management of Holding JSC «RAO Energy System of East» [3]), and protection of property – is the main principle of operation of such a system.

Theoretical base for the optimal portfolio of businesses was made by such scientists: H. Ansoff (1977) [4], V. Ashley (1984) [5], G. Mintzberg, B. Ahlstrand, and Zh. Lampel (2013) [6], L. Grettton (2003) [7], etc.

To construct the optimal portfolios we use various tools. The most visible and effective is the matrix of strategic planning. Most known in practice – is matrix «General Electric» (GE), the matrix of the Boston Consulting Group (BKG), matrix of H. Ansoff. All them are aimed at identifying the competitive position of businesses and help to make the decisions for the top managers on issues of the market positioning of the portfolio. In other words, the matrices are tools that define the relationship between the holding and the environment and reflect the position of holding in the environment.

One of the first matrixes, which were widely spread in practice, is matrix «share of market growth» or matrix BCG (Boston Consulting Group). The methodology was based on several assumptions that make this matrix sufficiently persuasive tool: «Net income and available funds are the function of market share... The growth requires the investing of additional funds to finance additional assets ...High market share has to be earned or purchased ...None of the commodity markets cannot grow indefinitely. The returns from the growth have come during the slowdown; otherwise it is not worth to expect ...» (Mintzberg, 2013) [6, p. 93-94].

The basis of the approach is the statement that the portfolio should include businesses with different growth rates of sales and different market shares, then it will provide the balance of the cash flows, i.e. this will create a balanced portfolio. G. Mintzberg (Mintzberg, 2013) [6, p. 93-96] suggests the interpretation of this approach in terms of the founder of the Boston Consulting Group of Bruce Henderson. In his view, a balanced portfolio should consist of «Stars», i.e. businesses that have a high share on the fast-growing market; of «Cash cows», i.e. businesses, generating major cash flow (high market share, low growth potential) and «Troubled children» (low market share, high growth potential). Business portfolio does not mention the proportions of such businesses.

The disadvantages of this matrix can include the main argument of our discourse: the lack of consideration of the financial aspects, i.e. in reality on the basis of the matrix it is difficult to determine, for example, how the cost within the businesses portfolio is distributed or to what extent the value of the portfolio is protected. Nevertheless, in the area of circle it is possible to determine the relative importance of business for the holding, which is determined by the size of assets or income generated.

I. Ivashkovskaya (2012; 2004) [9; 10] proposed interesting developments. The author has developed a special tool – «Matrix of growth quality», which allows to assess the quality of growth, which follows from the analysis of the company's financial model. The horizontal axis represents the company growth rate of market value (it is calculated as the geometric mean), the vertical one represents the sales growth (the average for the sample of competing companies; also it is defined as the geometric mean). According to the author, this approach makes it possible to synthesize the financial and strategic approach in a single tool. However, this tool does not solve the issue of communication of assessments of internal and external environment to the fullest and cannot guide the owner in respect of protection of business value.

The purpose of this paper is to develop a matrix of portfolio analysis, which can be used to determine the degree of protection of business portfolio of holding from the positions of competitive position of businesses in the portfolio.

Results. Balanced portfolio in the holding suggests the optimal combination of yield level (desired by the owner) in the current and in the long run, given growth rate (for the achievement of a certain size of the group of companies over a certain period set by the owner), a certain level of risk and liquidity.

The proposed comprehensive approach to the management of a business portfolio that combines the best practices of concepts of portfolio and strategic investor will be required to perform the following two conditions:
• portfolio is considered balanced if the proportion of the golden section in the evaluation of its structure will make 62% : 38%;
• portfolio combines the yield and stability ratio (in this case, the risk) and the golden section is 62% : 38%.

These two criteria of balance will serve as indicators while the structuring of the portfolio. The closer the proportions will be to the golden section, the closer the portfolio will be to the balance. We chose the golden section as the base, as the golden section has redundancy and stability that allows the self-organizing systems to form. Creation of a redundant system involves the use of the golden section in the structures (business portfolio, organizational, financial, technological, etc.), rather than an arbitrary number of redundant businesses, facilities, excessive financial and human resources.

Using of the «golden proportion» in researches and practice is becoming more widespread. There was observed the discovery of generalized Fibonacci numbers and generalized golden sections by the Ukrainian scientists I. V. Vitenko, A. P. Stakhov (2011) [11] which was confirmed by practical researches. Belarusian scientist E. M. Soroko [12] hypothesized (law of systems harmony) that this discovery may be fundamental for the synergetic, study processes in the economy the equilibrium systems. «One of the ways to solve the problem of reliability of modern computers – is the introduction of redundancy. Numerical system with an irrational ground based on Fibonacci numbers and the golden proportion has such redundancy (by the way, the classical numerical system-binary, is a special case of this numeration) that allows to create trouble-free computers with error-correcting properties» [13]. I. V. Pragnishvili, and A. I. Ivantus [13] having studied the competitive markets, found that for the competing processes in the economy the equilibrium point is equal to the ratio of 62%: 38%. In our case, we will use this proportion as an indicator of the balance of holding business portfolio.

We will consider the cost of business protected from the standpoint of competitive position, if the rate of growth of the business is equal or higher than the market growth rate and market share remains at the same level over time or increases. To determine the level of the cost security of business portfolio we use the following algorithm:
• Determine the situation with the competitive condition for each business in the portfolio as for the current date. Determine the capacity of the markets, shares of each business in the markets.
• Compose the forecast of the industry development over the next five years with the expectation of the capacity of each of markets of businesses portfolio of holding: calculate given the anticipated market growth (by expert method). For this study it is sufficient to determine the growth rate of the industry.
• Make the forecast of competitive position of each of the businesses in the portfolio: calculate the market share.
• Calculate the value for each of the businesses in the portfolio.
• Analyze the businesses according to the competitive position in the future.

The analysis results are placed in the matrix-positioning. The vertical axis is positioned market growth rate, and the horizontal – market share. Matrix involves different combinations of market growth rate and share of a particular company in it. Designate the growth rate of the market – r_m, the growth rate of the enterprise – r_b, market share in the base period – s_0, and in the planning – s_p (see Figure 1).

In contrast to the well-known matrix «share growth of the market», here we compare the growth rates of each of the businesses with the growth rate of the market (the main trend of the industry), on which it operates, and the share of each of the

growth rate/ market share	$S_0 > S_p$	$S_0 = S_p$	$S_0 < S_p$
$r_m > r_b$	1	2	3
$r_m = r_b$	4	5	6
$r_m < r_b$	7	8	9

Fig. 1: **Matrix of different combinations of market growth rate and share of a particular company in it**
Source: The author's own development

businesses in the base period and in planned one. In traditional matrix «share growth of the market» the relative market share is defined as the ratio to a strong competitor or three strongest competitors. In our case, the market share for the company is compared in two periods those are basic and planned that allows associating today's positioning with the strategic objectives of the holding. Diameter of the circle represents the value of a particular business or its share (in %) in the total portfolio value so far the combinations of selected characteristics are possible, when the market growth rate is greater, less or equal to the rate of growth of the business. The combination of the planned and existing market share also suggests three options for combinations, so the matrix will consist of six quadrants. We propose the following interpretation of businesses positioning in accordance with the proposed matrix:

1. Business is growing slower than the market, and the share will decrease with time. These are problem businesses which are most likely to worth to get rid of.

2. Business is growing slower than the market, the market share remains unchanged. Businesses, on average, are in competitive position. To maintain the proportion the additional investment are required.

3. Business is growing slower than the market, the market share increases with time. Businesses are in neutral competitive position. To increase the market share the additional resources are required.

4. Business is growing at the same pace with the market, the market share decreases with time. Businesses that fall into this quadrant are relevant to the problem ones, but they have the ability (in result of the scenario revision) to move to another quadrant.

5. Business is growing at the same pace with the market, the market share remains unchanged. It is a good business position. As a rule, it is businesses that generate sufficient cash flows and does not require investments.

6. Business is growing at the same pace with the market, the market share increases with time. Here are the businesses with good growth prospects, requiring additional investments.

7. Business is growing faster than the market, the share decreases with time. This means that there may be the consolidation processes on the market and it can be necessary to reconsider its strategy.

8. Business is growing faster than the market, the market share remains unchanged. This is a business with a good competitive position, it is stable.

9. Business is growing faster than the market, the market share increases with time. This is a promising business with high growth potential. It requires an additional investment to maintain its growth.

From the standpoint of value security the businesses that are in quadrants 1, 2 and 4 have unprotected value, those that are in quadrants 3, 5 and 7 – have middle positions and the value is questionable (in terms of security) for businesses located in 6 quadrants, 8 and 9, the value is considered to be secure. Number of businesses located in a value protected position in relation to the rest should be close to the «golden proportion». Thus, on following such a ratio of the protected

value against the doubtful and insecure one we can talk about the degree of adaptability of the business portfolio in terms of the competitive position of the business portfolio. The more value is protected, the more stable business portfolio is.

We show an example of the «Ukrpodshipnik» Corp. using matrix of positioning according to data of 2007 with a forecast for up to 5 years till 2012. Results of the analysis and data for the construction of the matrix are summarized in Table 1.

Build a matrix of positioning (see Figure 2).

Figure 2 shows the distribution of value on quadrants: 84.7% of the portfolio value is protected (55.5% + 28.7% + 0.5%), as located in quadrant 9.9% (5.4% + 3.6%) refers to a doubtful value (located in quadrants 3 and 5) and 6.3% (3.6% + 2.7%) is within the unprotected value zone. Display the distribution of the cost of holding on competitive position (Figure 3).

Tab. 1: **Results of the quantitative valuation of the business portfolio of «Ukrpodshipnik» Corp. for constructing of matrix of positioning**

Businesses	Index				
	Market growth rate	Business growth rate	Market share in the base period (2007)	Market share in the planned period (2012)	Cost, thousands U.S. dollars
Energetic	1	1.2	0.35	0.5	57 989
Salt	1.1	1.1	0.9	0.9	3 894
Stone processing	1.3	1.4	0.01	0.3	488
Gas	1.1	0.8	0,001	0,001	2 801
Non-ferrous metals	1.2	1.3	0.7	0.76	29 934
Engineering	1.1	1	0.4	0.45	5 629
Cable	1.5	1.2	0.25	0.1	3 681

Source: Own processing

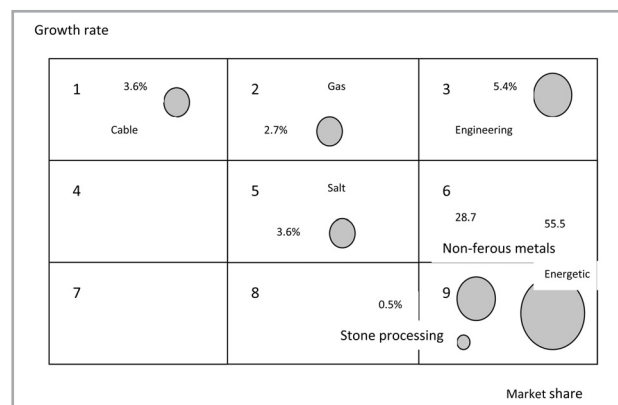*Fig. 2:* **Matrix of positioning for «Ukrpodshipnik» Corp. for the period 2007-2012, optimistic scenario**
Source: Compiled by the author according to data from her own archive when she was working at «Ukrpodshipnik» Corp.

The data in Figure 3 allow making the conclusions about the degree of protection of value of business portfolio. As a result of the analysis we can say that 84.7% of business value are well secured, as located on the enterprises that are in good competitive position (Energy, Non-Ferrous Metals and Stone Processing), 9% of the cost of business (Salt and Engineering) are in the middle position and 6.3% of the cost (Cable and Gas) are the least secured (data on axis Y). In general we cannot speak about the harmonious distribution of value in the portfolio, as the ratio of the protected and unprotected value is far from the gold section (62% : 38%). Approach to the portfolio with the security value creates a kind of adaptation mechanism for holding, allowing feeling confident, both today and tomorrow in its environment.

Conclusions. Balance of the portfolio requires quantitative indicators. Portfolio will be considered balanced if it complies with the golden section in the evaluation of its structure: 62% : 38% and the portfolio will be a combination of profitability and sustainability (in this case, risk) with the golden section: 62% : 38%. The definition of the value security level from the stand-
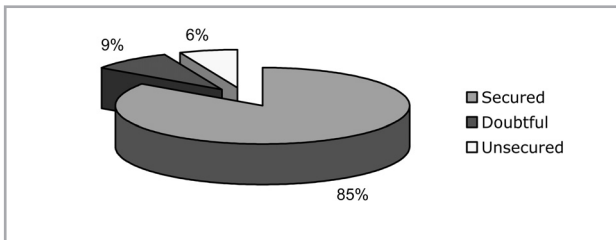
Fig. 3: **The cost security of «Ukrpodshipnik» Corp. as of 01.01.2007**
Source: Compiled by the author according to data from her own archive when she was working at «Ukrpodshipnik» Corp.

point of competitive position of businesses in the portfolio: we assume the cost of business is secured from the competitive position, if the business growth rate is equal to or higher than the market growth rate and market share remains at the same level or increased over the time. We proposed an algorithm for determining the degree of business portfolio security in terms of its competitiveness. Matrix of positioning is suggested. With the help of this matrix it is possible to carry out the analysis of business portfolio scenarios. The matrix serves as a good tool to evaluate the performance of top management, as a comparison with the growth rate of the market and maintaining of market share at the required level. In addition, with the help of this matrix it is possible to carry out a comparison of growth (sales revenue) and cost. Figures 2 and 3 shows an example of the use of M-positioning for «Ukrpodshipnik» Corp. as of 01.01.2007, with the forecast for 5 years.

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