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### **Methodological bases for determining the competitiveness of international airlines (on the example of the Lufthansa airline)**

*The strengthening of international relations and integration in the conditions of globalization proves that the issue of competitiveness of international airlines occupies an important place. Therefore, in these conditions, it is necessary for airlines to actively engage in the implementation of scientific and technical developments, personnel development, improvement of service quality, effective marketing and improvement of financial indicators. In the conditions of competition, more and more international airlines are entering world markets and trying to take the place of the leader. Therefore, the primary importance of any airline is to improve its level of competitiveness and secure a market leadership position in the long term.*

#### **The competitiveness of international airlines (on the example of the Lufthansa airline).**

In modern economic conditions, the competitiveness of an international airline is one of the main factors of "survival" in the market. Scientists interpret the concept of "competitiveness" in different ways. V.V. Charcot defines the competitiveness of an enterprise as a set of interconnected elements aimed at ensuring its strong competitive positions, maintaining and developing existing and creating new competitive advantages [1]. P.R. Pucenteillo considers the competitiveness of the enterprise as a multifaceted economic category, which is the main criterion for evaluating the efficiency of production, performance of work or provision of services, as well as the resulting indicator of the effectiveness of the management system of the economic entity [2]. V.V. Antoshenkova believes that competitiveness is the driving force of society's development, an important tool for saving resources, improving the quality of goods and the standard of living of the population [3]. The current level of economic knowledge on these issues is characterized by the existence of a large number of different theories, methodological approaches and applied recommendations at the paradigm level. We believe that the integral characteristic of the competitiveness of an international airline cannot be a grouping of a limited number of quantitative indicators, since it is a qualitative category. Based on this, it is possible to give the following definition of the competitiveness of an international airline company - it is its ability to function in the foreign market, to achieve high results and leading positions in the conditions of a competitive environment. We will successively consider the definition of financial indicators, which, in our opinion, characterize the level of competitiveness of an international airline.

The coefficient of autonomy is one of the most important coefficients of financial stability. This indicator is important for both owners and creditors of the airline. A low value of the indicator will signal a high level of risks and low sustainability of the company in the medium term. This indicator is calculated according to the following formula:

$$\textit{The coefficient of autonomy} = \frac{\textit{Equity}}{\textit{Total liabilities}}$$

The normative value of this indicator should be more than 0.5.

The coefficient of financial dependence is an indicator of financial stability, which indicates the ability of the airline to carry out the projected activity in the long term. The indicator is the inverse of the indicator of financial independence. This indicator is calculated according to the following formula:

$$\textit{The coefficient of financial dependence} = \frac{\textit{Assets}}{\textit{Equity}}$$

The normative value of this indicator should be less than 2.

The leverage ratio shows how dependent the airline is on loans. This indicator is calculated according to the following formula:

$$\textit{The leverage ratio} = \frac{\textit{Long - term liabilities}}{\textit{Equity}}$$

The normative value of this indicator should be less than 0.5.

The coefficient of financial stress is calculated according to the following formula:

$$\textit{The coefficient of financial stress} = \frac{\textit{Total liabilities}}{\textit{Equity}}$$

The normative value of this indicator should be less than 1.

Current liabilities ratio - shows the ratio of equity and current liabilities. It is an indicator of the airline's ability to meet current liabilities with equity capital. The indicator shows how many hryvnias of equity the company has for every hryvnia of current liabilities. This indicator is calculated according to the following formula:

$$\textit{Current liabilities ratio} = \frac{\textit{Short - term liabilities}}{(\textit{Short - term liabilities} + \textit{Equity})}$$

The normative value of this indicator should be less than 0.6.

The ratio of long-term liabilities - shows the ratio of equity capital and long-term liabilities. It is an indicator of an airline's ability to meet long-term obligations with equity capital. The indicator shows how many hryvnias of equity the airline has for every hryvnia of long-term liabilities. This indicator is calculated according to the following formula:

$$\textit{The ratio of long - term liabilities} = \frac{\textit{Long - term liabilities}}{(\textit{Long - term liabilities} + \textit{Equity})}$$

The normative value of this indicator should be less than 0.3.

The quick liquidity ratio is an indicator of the airline's short-term liquidity, which measures a company's ability to pay off its short-term obligations on time with highly liquid assets. This indicator is similar to the indicator of current liquidity, because it shows the level of solvency of the airline. This indicator is calculated according to the following formula:

$$\textit{The quick liquidity ratio} = \frac{(\textit{Current assets} - \textit{Inventory})}{\textit{Short - term liabilities}}$$

The normative value of this indicator should be greater than 1.

The investment ratio shows the economic resistance of the investment object to external influences. If the capital of the investment object consists to a greater extent of borrowed funds, and its own assets have low liquidity, then it will be dangerous for the investor to invest his funds in any investment project on this investment object and with a high probability he will abandon the investment project. This indicator is calculated according to the following formula:

$$\textit{The investment ratio} = \frac{\textit{Equity}}{\textit{Total equity}}$$

The normative value of this indicator should show an increasing trend.

The given indicators make it possible to analyze the level of competitiveness of an international airline. We will analyze the level of competitiveness of the Lufthansa international airline on specific materials. Lufthansa is the largest German airline, the national carrier of Germany and the largest airline in Europe, both by the number of aircraft and by the number of passengers carried. The Lufthansa airline logo, stylized in the form of a circle of cranes in flight, was created in 1927 by the Ukrainian graphic artist Robert Antonovych Lisovsky. The company ranks fourth in the world in terms of the volume of passenger transportation, operates flights on 18 domestic and 203 international routes. In total, regular flights are made to 78 countries around the world. Together with its partners, Lufthansa operates flights on 403 routes. Including divisions, the company's fleet consists of 710 aircraft, and by this indicator it ranks 2nd in the world. The headquarters of the company is located in the city of Cologne. Base airports (hubs) — Frankfurt Airport, Munich Airport, Dusseldorf Airport. Lufthansa was one of the founders of the Star Alliance, which is currently the largest airline alliance in the world. In 2016, 110 million passengers used the company's services (not including Germanwings and Brussels Airlines). In 2020, the company's losses from the coronavirus pandemic exceeded 5 million euros. Table 1 shows the financial indicators of the Lufthansa company.

*Table 1.*

Financial performance indicators of the Lufthansa company, EUR million

Indicator	2020 year	2021 year	Growth rate per year, %
Total annual sales	13 589	16 811	123,71%
Inventory	726	675	92,98%
Total assets	39 484	42 538	107,73%
Non-current assets	29 444	29 063	98,71%
Current assets	10 040	13 475	134,21%
Equity	1 530	3 060	200,00%
Short-term liabilities	14 659	14 682	100,16%
Long-term liabilities	23 438	23 366	99,69%
Total liabilities	38 097	38 048	99,87%
Cash and cash equivalents	1 806	2 307	127,74%
Net profit (loss) of the company	-6 725	-2 191	32,58%
General expenses	20 846	20 773	99,65%
Total capital	1 387	4 490	323,72%

Source: calculated by the authors based on data [4].

Indicators of total annual sales, total assets, current assets, equity, short-term liabilities, cash and their equivalents, and total capital from the table. 1 shows a growing trend. Inventories, non-current assets, long-term liabilities, total liabilities, company's net loss and total expenses show a decreasing trend. It should be noted that total annual sales increased by 24%, equity increased by 100%, total assets increased by 8% and net loss decreased by 33%. Based on the proposed methodological approaches, we will assess the level of the company's competitiveness. We present the interpreted results in Table 2.

*Table 2.*

Indicators characterizing the level of competitiveness of the company

Indicator	2020 year	2021 year	Normative value of the indicator
Total annual sales	0,04	0,08	> 0,5
Inventory	25,81	13,90	< 2
Total assets	15,32	7,64	< 0,5
Non-current assets	24,90	12,43	< 1
Current assets	0,91	0,83	< 0,6
Equity	0,94	0,88	< 0,3
Short-term liabilities	0,64	0,87	> 1
Long-term liabilities	1,10	0,68	growth

Source: calculated by the authors based on data [4].

The company's indicators show non-standard values. Therefore, the company is not able to carry out the projected activity in the long term; is not able to meet current obligations with the help of equity capital and is not able to repay its short-term obligations with the help of highly liquid assets. The debt leverage ratio shows that the company is dependent on liabilities. The coefficient of financial stress shows that the company's critical dependence on external borrowing is increasing, which negatively affects its financial stability. The long-term liabilities ratio shows that the company is heavily dependent on long-term liabilities, while current liabilities are within normal limits. The investment ratio shows a slight decrease from 2020 to 2021, which indicates that it will be dangerous for the investor to invest his funds in any investment project in this investment object and with a high probability he will abandon the investment project.

Therefore, in order to determine the level of competitiveness of an international airline, in our opinion, such indicators should be used as: coefficients of autonomy, financial dependence, attracting liabilities, financial stress, current liabilities, long-term liabilities, quick liquidity, investments, stock shares in current assets and working capital in current assets. Using the example of an international company, we analyzed the level of its competitiveness and made calculations of the proposed indicators, leading to the conclusion that the company has an unsatisfactory level of competitiveness. We believe that the company should pay attention to the values of indicators and bring them to normative values.

## References

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