

Sources of financing for aviation companies in the context of modernization investment processes

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Abstract

The purpose of the article is to study the modeling of investment attractiveness on the example of airlines. The scientific and practical significance of the work lies in the fact that aviation is one of the fastest growing sectors in the world, combining technology, innovation, entrepreneurship, economic development, infrastructure support, demographic growth and contribution to globalization. Progress in this sector is impressive in its speed and diversity of character. The theoretical part of the study used analysis, generalization and systematization of theoretical material. The scientific novelty of the research consists in the scientific substantiation of the theoretical foundations and the formation of practical recommendations of aviation companies. Based on the analysis of the investment activity, it was revealed that outdated methods of evaluating the effectiveness of investment projects are used and it is proposed to use quantitative risk analysis and break-even assessment of the airline's investment projects for these purposes.

Keywords. financing, airlines, modernization, investment.

JEL codes: D25, L93, M4

1 Introduction

The next few years will be crucial for aviation financing, as the peak of new aircraft deliveries comes at a time when many traditional commercial banks remain under pressure.

New investors are already entering this space, as aviation finance is an asset class that can offer attractive returns secured by the underlying asset.

Reasons for investing in aviation financing:

- effectively uses large amounts of capital;
- relatively predictable profitability although the residual value, especially for older aircraft, can be volatile;
- the aircraft- the basic asset – is truly global in its recognition and use;

- investments typically backed by a "hard asset" backed by international regulations such as the Cape Town Treaty;
- a highly mobile asset helps to recover and reuse the asset in case of default.

The operations supported by the Export Credit Agency (ECA) are still well below historical levels. At first glance, there is nothing unusual in this, since the industry is overflowing with liquidity, and airlines get access to cheap financing in other countries (Palamarchuk, 2018).

Digital transformation for airlines will mostly concern the revision of the customer relationship system, focusing on the "digital consumer", and this trend will be reinforced by global digital platforms and online aggregators in the tourism sector. Comprehensive digital transformation projects are becoming increasingly important in the corporate strategies of airlines. These projects, in particular, relate to specialized innovative services, for example, air travel by subscription, the creation of specialized corporate venture capital funds, the conclusion of hybrid contracts.

The study found that digital transformation in the global aviation services market is subject to many exogenous shocks, in particular national legal norms that cannot adapt quickly following changes in the market. The main problem limiting the digital transformation of the industry remains regulatory differences in countries regarding data privacy and security requirements.

Against the background of global challenges related to atmospheric pollution, the reduction of non-renewable energy resources and climate change, the number of air traffic in the world is constantly growing, and the requirements for ensuring safety and environmental friendliness of flights are increasing. All this sets a number of progressive trends in the development of aircraft construction and makes it necessary to search for new approaches to the design of aircraft and the introduction of optimal technical solutions.

Currently, airlines are successfully implementing new digital technologies. The modern aircraft service industry is increasingly switching to electronic service management systems, including interactive ones focused on two-way communication with passengers. Digital transformation in a broad sense is, first of all, new business processes, organizational structures, regulations, regulations, new role models.

In the process of entrepreneurial activity, enterprises and organizations have economic relations with their counterparties: suppliers and buyers, partners in joint activities, associations and associations, financial and credit systems, as a result of which financial relations arise related to the organization of production and sale of products, performance of work, the provision of services, the formation of financial resources, the

implementation of investment activities. The material basis of financial relations is money. However, a necessary condition for their occurrence is real cash flow due to mutual settlements between business entities, during which centralized and decentralized cash funds are created and used.

In the structure of financial interconnections of the national economy, the finances of enterprises (organizations, institutions) occupy the initial, determining position, since they serve the main link in social production, material and intangible goods are created and the prevailing mass of financial resources of the country is formed, enterprise finance is not only compound, but and a specific part of finance. On the one hand, they are characterized by features that characterize the economic nature of finance as a whole, and on the other hand, features caused by the functioning of finance in various spheres of social production.

The purpose of the article is to review and systematize investment attractiveness used by leading air carriers in order to structure them and determine the formats for their use in airlines.

2 Literature review

In some cases, as S. L. Blau points out, "the return on allocating resources to an investment project is not in money, but in profit". For example, a typical investment project is a real estate investment. Real estate is priced based on the rent it can generate, and the return on investment is expected in the form of money. Investing in a person's education or training, on the contrary, provides a benefit, rather than a direct return on cash. This type of human resources investment project is designed to have different types of returns that relate to the non-monetary goals and objectives of the investor.

The investment policy of a modern airline is a complex, interrelated and interdependent set of activities aimed at its own further development, generating income and other favorable effects as a result of investment.

The development of the investment policy of the airline involves specific actions that are presented: the definition of long-term goals of the company, the selection of the most promising and profitable investment, development priorities in the development of the company, the evaluation of alternative investment projects, development of technological, marketing, financial projections, assessing consequences of implementation of investment projects.

3 Methodology

The methodological framework of the study is the dialectical, systematic, and historical approaches, fundamental provisions of economic

theory, the theory of information economy and innovative development, as well as the studies of economists devoted to the development of the modernization investment processes and the problems of the functioning of companies in the economy. Notably, the management of investment processes of the airline is a complex process, the study of which should be an important tool to improve the efficiency of the airline company.

The initial point of justification of the company's investment strategy is represented by an analysis of the market for products already produced by the production company, or planned for release.

When choosing a company's investment strategy, it is necessary to determine the total amount of its investments, including possible combinations of various sources of financing and borrowing.

The specifics of the development of the airline's information resources can be implemented within the framework of creating a single information space. The awareness that the information accumulated in various departments is an important resource that should be available to all users leads to the introduction of a new information policy by Kazakh companies. However, at this stage, a significant number of enterprises are using accounting systems, instead of using more powerful and efficient financial and economic management systems. In addition to its primary functions, the company's financial and economic management system should incorporate a mechanism for managing financial security that encompasses planning, organization, regulation, incentivization, and control.

4 Results and Discussion

SACE, the Italian export credit agency, has also begun to support some aviation assets, guaranteeing financing of one Boeing aircraft delivered to SunExpress at the end of 2017.

In 2014, Boeing's support from Ex-Im Bank accounted for 40% of all its transactions. Today, this figure is below 1%. During this time, funding sources supported by the Aviation Financial Insurance Consortium (AFIC) have emerged to fill this vacuum. AFIC, which is a syndicate of insurance companies, financed more than 30 aircraft in 2018, which is twice the volume of its initial year of operation.

In 2018, AFIC closed its largest portfolio financing of Ethiopian Airlines to date, which included eight aircraft – five Boeing 737MAX-8 and three Boeing 777F cargo. This transaction also represented the largest amount of AFIC financing for the airline in 2018, using over \$600 million of AFIC senior debt financing. The deal was funded by Societe Generale, ING and SMBC. Afic supported the financing of five 737MAX aircraft in combination with junior loan financing provided by Investec to provide Ethiopian airlines

with 95% financing of the aircraft at an attractive all-in cost. The first aircraft was delivered on June 30, 2018, and the last one was delivered on December 29, 2018.

No doubt inspired by the success of the AFIC product, Marsh S.A.S - another team from Marsh LLC, which is the broker for all AFIC transactions, which has separate reporting lines and corresponding Chinese walls - is working with Airbus and another insurance syndicate, dubbed Project Balthazar, which will help some airlines to support Airbus assets. It is reported that the first transaction is close to completion.

Despite the success and volume of insurance sources provided to the market, Boeing states that the new supported sources of financing are not a satisfactory replacement for the American export-import bank, which remains an essential tool, especially in case of deterioration of commercial financing conditions.

4.1 Example of Subsection

Boeing assumes that export credit agency financing will continue to account for a small proportion of aircraft financing, as markets are expected to remain healthy and resilient. However, if the market experiences a deeper downturn, as some industry players predict, the ECA will become more in demand again. This, of course, is the meaning of their existence, namely, to be an anticyclical source of funding.

Since only very few rated airlines can access government bond markets, most aircraft will be financed by secured loans or other effective equity products (Potasheva, 2018). The most popular and affordable low-cost equity structures in the aviation market today are JOLs and the French tax lease. The latter are only available to very few airlines that benefit from the Sino-French double taxation avoidance agreement. An outstanding deal from 2018 that included the French lease of two 777 cargo planes to Turkish Airlines, with debt that was backed by AFIC.

In contrast, JOL and JOLCO products have been used effectively by many airlines for many years. There has been a significant surge in deals in 2017 as the Japanese stock market ramps up its investments in aviation assets.

The influx of liquidity from Japanese investors through newly operating Japanese banks has caused changes in the market compared to how it looked twenty years ago during its last boom.

In the late 1990s and 2000s, Japanese equity investors were targeting the very best loans, focusing on new equipment and the most liquid aircraft, usually narrow. Joint work with Japanese equity capital will ensure a strict pre-selection process by Japanese organizers and investors (Proskurin, 2019).

Bank loans remain predominant for airlines and lessors, while prices remain at historically low levels, and covenants are weakened in response to market demands and competition.

4.2 Figures and Tables

Leasing companies are becoming more adapted to securing debt at a very low level in renewable credit institutions and in more traditional, but large-scale financing. As for secured debt, in 2018, some of the outstanding deals were concluded by leasing companies in Asia. Vermillion, an aircraft leasing joint venture between CK Asset Holdings and MC Aviation Partners, has refinanced a secured loan of \$950 million. CDB Aviation also successfully closed a \$700 million seven-year guaranteed financing facility that covered a fleet of 19 Airbus and Boeing aircraft.

The transition to unsecured financing is very attractive, in particular, for leasing companies, since the presence of unencumbered assets is positively considered by rating agencies when considering raising ratings, especially investment grade, since this allows them to get access to much more favorable prices in the capital markets (Tarasova, 2017).

The largest fleet of aircraft is present at Air Astana (27 units) and Scat Airlines (17 units). At the same time, such airlines as Scat Airlines (21 years old), Suncar Air (23.2 years old), KazakstanGvmt (23.9 years old) have the greatest age of aircraft.

Let's also consider the aircraft brands in Figure 1.

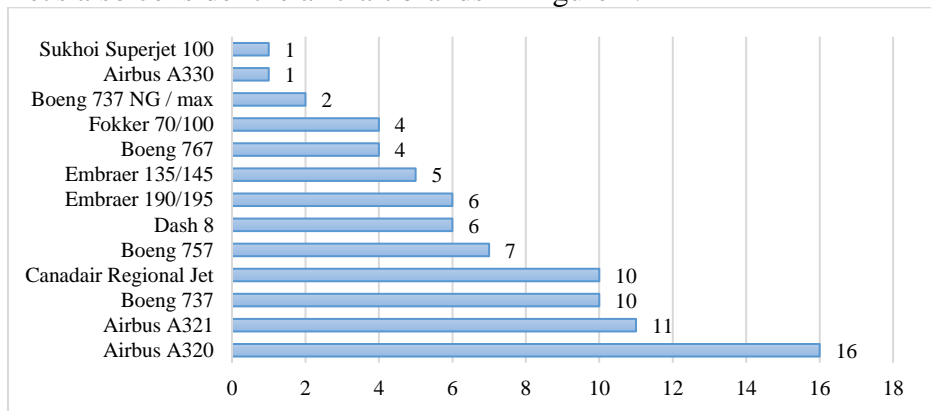


Figure 1. Aircraft brands of Kazakhstan airlines in 2021, years. Source: Compiled by the author based on the source Financial statements (2020).

The most popular aircraft brands in Kazakhstan are Airbus A320 (16 units), Airbus A321 (11 units), Boeing 737 (10 units), Canadair Regional Jet (10 units).

More than a year has passed since the crash of the aircraft Fokker 100 UP-F1007 airline Bek Air. After this tragic incident, on the instructions of the President of the Republic of Kazakhstan Kassym-Jomart Tokayev, the Civil Aviation Committee of the Ministry of Foreign Affairs of the Republic of Kazakhstan jointly with the Aviation Administration of Kazakhstan JSC conducted an unscheduled audit of the activities of all airlines of Kazakhstan. In total, the Aviation Administration of Kazakhstan conducted 331 inspections. During the audit, about 2,400 violations were identified. Most of them are small, but important for flight safety as second and third-level protection measures.

Dupont analysis is used to evaluate the components of a company's return on equity (ROE). This allows the investor to determine which financial activity contributes the most to the change in ROE. An investor can use such an analysis to compare the operational performance of two similar firms. Managers can use DuPont analysis to identify strengths and weaknesses that need to be addressed. DuPont analysis breaks down the process into its constituent components to determine which of these factors are most significant.

Return on assets analysis is used to evaluate the activities of an organization as a tool for analyzing investment policy (return on investment from the perspective of investors). Table 1 presents an analysis of the return on assets of Air Astana JSC.

Table 1. Analysis of return on assets according to the DuPont model for Air Astana JSC in 2019-2021, million tenge.

Indicators	2019	2020	2021	Absolute change	
				2020	2021
Assets	379757	223055	379757	-156702	156702
Revenue	305252	145548	315750	-159704	170202
Net profit (loss)	15485	-38672	11494	-54157	50166
Interest payable or financial expenses	20040	14940	10095	-5100	-4845
Return on sales (margin)	3,34	-23,77	4,77	-27,11	28,54
Asset turnover	1,14	0,54	0,79	-0,6	0,25
Return on assets (ROA)	5,43	-17,26	5,07	-22,69	22,33

Source: Compiled by the author based on the source of Financial statements of JSC "Air Astana" (2021).

The analysis methodology under consideration provides a comprehensive assessment of the organization's activities, including an assessment of competitiveness (through margin) and management effectiveness (through turnover).

The purpose of analyzing the financial resources of a commercial organization is to form a sound professional judgment about the effectiveness of the structure of their attraction and placement, as well as the effectiveness of their use, and on this basis to identify existing opportunities to improve the latter (efficiency). Competent quantitative and qualitative characteristics of these aspects of financial resource management contribute to the achievement of effective management impact goals, which have a cascading structure depending on the stage of the enterprise's life cycle.

In this regard, an important rationale of the author's methodological concept of financial management is understanding the following: evaluation of management effectiveness should not only be aimed at investigating the effectiveness of use of financial resources (as ratio between the obtained effect of the activity and the average size of financial resources), but also offer the analysis of efficiency of use of financial resources.:

- the rationality of their formation and distribution;
- rationality of financial relations that arise when attracting financial resources of the Institute and fulfilling its financial obligations;
- financial consequences of the implemented financial resources management policy of the commercial organization and / or expected management decisions to adjust it.

The analysis of various approaches allows us to identify the main essential features of financial resources:

- first, financial resources are monetary in nature;
- secondly, they are the material carriers of financial relations. Forms of manifestation of financial resources are: commodity in the form of labor products (goods) that have a value (use and exchange), and monetary (cash);
- third, they have a dynamic character, since they constantly change their form of manifestation (commodity — monetary — commodity, etc.) while participating in the cycle.
- fourth, they have a certain purpose (target character), which determines their participation in all types of activities of the organization (current, financial, investment).

These characteristics allow us to define financial resources as a set of sources of money (funds) that are at the disposal of the organization

(enterprise) and have a target nature. Thus, financial resources include both existing and potential funds of the organization.

5 Conclusion

Leasing companies are being used for financing more than ever before. Airlines have so much choice that they make serious demands, especially in reverse sales transactions. Commercial banks, lessors and export credit agencies account for the majority of aircraft financing, and the use of capital markets has expanded significantly over the past decade.

It is in the areas of capital markets and operational leasing that the greatest financial activity will be observed in terms of volume. Securities are used. An EETC is a publicly (but sometimes privately) issued security with a rating that relies on a single issuer's credit and is backed by aircraft. EETCs are well suited for re-releases, and carriers with an established history in the market can achieve very competitive rates. ABS are issued on private and capital markets secured by aircraft or leasing rental cash flows. The predominant forms of ABS are transactional structures in the form of secured credit obligations and secured debt obligations.

Commercial banks currently finance approximately 33% of new aircraft deliveries, but recently such financing has become more restrained as a result of the credit crisis. Despite the growing demand for commercial flights and the growing demand for passengers, commercial carriers are still suffering due to high taxes and strict government regulation.

Aviation finance is an asset class that can offer attractive returns secured by an underlying asset. Reasons for investing in aviation finance: effectively uses large amounts of capital; relatively predictable returns, although the residual value, especially for older aircraft, can be volatile; the aircraft-the underlying asset – is truly global in its recognition and use; investments, as a rule, secured by a "solid asset" supported by International rules, such as the Cape Town Treaty; a highly mobile asset helps to recover and reuse an asset in case of default.

Advantages of digital transformation:

- makes production more flexible, competitive, and therefore more profitable;

- digital technologies provide prompt receipt of information about a product or solution at all stages of the life cycle - from development to maintenance, which allows administrative and management personnel to solve the tasks of optimizing the technical process, quality, safety and operational efficiency, entering the market, and creating new business opportunities faster and more efficiently.

Digitalization in the airline's passenger service sector is one of the primary tasks aimed at modernizing management and creating a convenient and practical service system for customers.

To do this, airlines are implementing effective IT solutions in the field of passenger service on board. Currently, the developments of the IT service enterprise management systems group are already being actively used, which are aimed at improving the quality of service and improving service on board aircraft.

Thus, the use of new digital technologies in the implementation of airline operations will significantly increase the efficiency of operations and reduce the costs of the airline, as well as allow it to meet the growing needs of passengers, match the technical equipment of the world's leading companies, and, consequently, will maintain the competitiveness and image of the company.

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