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SCENARIO-BASED APPROACH TO MODELING THE DEVELOPMENT OF THE PASSENGER AIR TRANSPORTATION MARKET IN TOURISM

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Abstract. The relevance of the study is determined by the need to forecast the development of the passenger air transportation market in Ukraine amid structural instability stemming from global crises, the COVID-19 pandemic, and the consequences of the full-scale war. The development of tools to assess possible recovery trajectories for the aviation sector and the related tourism market is of particular importance. The aim of the study is to develop a methodological approach to scenario modeling of passenger air transportation market development in tourism by combining econometric analysis and scenario forecasting. The research applies statistical analysis, economic and mathematical modeling, correlation and regression analysis, and scenario forecasting. The information base includes statistical data on Ukrainian airport passenger flows, population incomes, macroeconomic indicators, and air transportation costs for the period of 2005–2021. The results of the study demonstrate that despite crisis periods, the Ukrainian passenger air transportation market has a long-term growth trend and significant recovery potential. The developed econometric model confirmed that real population income is the most influential factor determining air transportation demand, while changes in air ticket prices have a less significant impact. Based on the model, three market development scenarios through 2030 were developed, considering different assumptions about economic conditions, population income dynamics, and qualitative factors in aviation infrastructure development. The analysis revealed that the pace of passenger flow recovery will primarily depend on the speed of national economic recovery and the growth of population purchasing power. The proposed approach also allows for the consideration of external factors that cannot be directly quantified in traditional statistical models. The practical value of the study lies in the possibility of applying the proposed approach for strategic planning of aviation infrastructure development, assessment of investment priorities, and formation of management decisions in the fields of civil aviation and tourism.

Keywords: digitalization; tourism market; competitiveness; forecasting; strategic development; recovery of tourism transportation; tourism safety.

СЦЕНАРНИЙ ПІДХІД У МОДЕЛЮВАННІ РОЗВИТКУ РИНКУ ПАСАЖИРСЬКИХ АВІАПЕРЕВЕЗЕНЬ У ТУРИЗМІ

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Анотація. Актуальність дослідження зумовлена необхідністю прогнозування розвитку ринку пасажирських авіаперевезень України в умовах структурної нестабільності, спричиненої глобальними кризами, пандемією COVID-19 та наслідками повномасштабної війни. Особливої важливості набуває розроблення інструментів для оцінювання можливих траєкторій відновлення авіаційної галузі та пов'язаного з нею туристичного ринку. Метою роботи є формування методичного підходу до сценарного моделювання розвитку ринку пасажирських авіаперевезень у сфері туризму шляхом поєднання економетричного аналізу та сценарного прогнозування. У дослідженні використано методи статистичного аналізу, економіко-математичного моделювання, кореляційного та регресійного аналізу, а також сценарного прогнозування. Інформаційну основу становили статистичні дані щодо пасажиропотоків українських аеропортів, доходів населення, макроекономічних показників і вартості авіаперевезень за 2005–2021 роки. За результатами дослідження встановлено, що попри кризові періоди ринок пасажирських авіаперевезень України характеризується довгостроковою тенденцією до зростання та має значний потенціал для відновлення. Побудована економетрична модель підтвердила визначальний вплив реальних доходів населення на формування попиту, тоді як зміна вартості авіаквитків має менш суттєвий вплив. На основі моделі сформовано три сценарії розвитку ринку до 2030 року, які враховують різні варіанти зміни економічних умов, рівня доходів населення та якісних чинників розвитку авіаційної інфраструктури. Встановлено, що швидкість відновлення пасажиропотоків визначатиметься насамперед темпами економічного відновлення країни та підвищенням купівельної спроможності населення. Практична цінність роботи полягає у можливості використання запропонованого підходу для стратегічного планування розвитку авіаційної інфраструктури, оцінювання інвестиційних потреб та формування управлінських рішень у сфері цивільної авіації і туризму.

Ключові слова: цифровізація; туристичний ринок; конкурентоспроможність; прогнозування; стратегічний розвиток; відновлення туристичних перевезень; безпека туризму.

Statement of the problem and its relation to important scientific and practical tasks. The passenger air transportation market is one of the most dynamic segments of the global transport system and plays an important role in the development of international tourism. According to estimates from international aviation organizations (UNWTO, 2026; IATA, 2025), air transport accounts for the majority of intercontinental tourist travel, and its development contributes to

increased competitiveness of tourist destinations, investment attractiveness of regions, and the integration of national economies into the global economic space. At the same time, recent years have been characterized by increasing uncertainty in the global aviation market, driven by the COVID-19 pandemic, geopolitical conflicts, high volatility in energy markets, inflationary pressures, and changes in tourist consumer behavior.

An analysis of the current scientific literature allows us to identify three main areas of research on the development of the air transport market. The first area covers research on econometric forecasting of air transport demand. Recent studies (Gultekin & Acik Kemaloglu, 2023; Sushchenko & Pohuda, 2024; Patel, 2025) demonstrate the active use of ARIMA, SARIMA, machine learning, and hybrid time-series models to forecast passenger flows following the COVID-19 pandemic.

The second direction concerns the assessment of the influence of socio-economic factors on the formation of demand (Vysotska, 2024; Puhin, 2024). Researchers note the crucial importance of population income, air ticket prices, the level of development of tourism infrastructure, digitalization of tourist services, and the quality of transport services. K.V. Bazherina et al. (2021) investigated the dynamics of passenger traffic in the Ukrainian air transportation market, analyzing current trends and key pricing factors. M. Brons et al. (2002) note that demand for air transport in European countries is influenced by macroeconomic and structural factors, primarily GDP and investment in aviation infrastructure. The same approach is followed by I.A. Adekunle et al. (2025), who note that the demand for air transport is determined by the population's income and well-being, as well as by infrastructure development, while the effects of individual economic factors vary with their scale and interactions.

Another important direction is represented by works devoted to scenario forecasting of the development of transport systems. It is worth noting KR's contribution. Bumen & M.D. Hotaling (2022) emphasizes the feasibility of using scenario planning for the strategic development of airports under uncertainty, and N. Ventola (2022) argues that effective airport management requires scenario planning to adapt to alternative scenarios and make strategic decisions. In this line of work, the scenario approach is considered a tool for strategic planning under high uncertainty; however, most models focus on global or regional transport systems and do not consider the specifics of the tourism market.

Despite a significant amount of research devoted to air traffic forecasting (Hopfe, 2024; Li et al., 2026), the analysis of the current literature indicates insufficient attention to integrating the scenario approach with econometric demand modeling in the field of tourist air transport. Most existing models are designed for relatively stable operating conditions in transport systems and do not account for structural changes caused by military conflicts, large-scale crises, and post-crisis economic recovery. This necessitates developing a methodological approach that combines scenario modeling, time-series analysis, and assessment of key demand factors.

The purpose of the study is to develop methodological principles for scenario modeling of the passenger air transportation market in the tourism sector by integrating socio-economic forecasting, econometric time-series analysis, and a scenario approach to assess the prospects for post-crisis and post-war restoration of tourist air transport in Ukraine.

Materials and methods. The study employs economic and mathematical modeling, statistical analysis, and scenario forecasting. The methodology is based on a consistent transition from analyzing the retrospective dynamics of the passenger air transportation market to developing alternative scenarios for demand growth. The information base of the study was formed by official statistical data of the State Aviation Service of Ukraine on passenger traffic at Ukrainian airports, materials of the State Statistics Service of Ukraine on population incomes, macroeconomic indicators and consumer price indices, as well as open data of international aviation organizations and specialized analytical agencies on trends in the development of the global air transportation market.

The retrospective period covers 2005–2021, providing sufficient time-series length to build a forecasting model and encompassing several stages in the development of the aviation market: the global financial and economic crisis of 2008–2009, the political crisis of 2014–2015, and the COVID-19 pandemic. The forecast horizon is set to 2030, which aligns with the study's strategic goal. The overall passenger flow of Ukrainian airports was chosen as the performance indicator due to the lack of publicly available statistical data on ticket sales and its high representativeness, as it directly reflects actual demand for air transportation.

When creating the scenarios, qualitative factors that are not directly measurable with statistics were also taken into account, including the level of air transport safety, the development of tourist products, the digitalization of booking services, and the quality of transport services. The reliability of the results was ensured by using official statistical sources, unifying the information base, adjusting economic indicators to comparable prices, applying proven econometric methods, and comparing forecast estimates under alternative scenarios.

Statement of the main results and rationale. Strategic forecasting of the development of the aviation industry and tourist air transport in modern conditions is accompanied by significant uncertainty. At the same time, the analysis of market-functioning patterns enables assessment of the potential for post-war recovery in passenger flows. The market conditions for the development of the tourism sector are of decisive importance, primarily the ratio of demand and supply, the levels of prices for tourist services and air tickets, as well as the population's income, which determine the scale of demand for air transportation. The formation of scientifically based forecasts of the post-war development of the market requires an analysis of the patterns of its functioning in the pre-crisis and crisis periods. This makes it possible to identify long-term trends, assess the impact of key economic and external factors on transportation volumes, and determine the industry's resilience to crisis phenomena and its potential for recovery.

Therefore, a retrospective analysis of the Ukrainian passenger air transportation market served as the empirical basis for building an econometric model and subsequent scenario forecasting. The analysis covers the period 2005–2021, which includes both periods of stable economic growth and several large-scale crises that significantly affected the aviation industry. This allows us to assess not only long-term market development trends, but also its resilience to external shocks and the potential for post-crisis recovery.

During the sample period, total passenger traffic at Ukrainian airports increased from 6.45 million in 2005 to 24.34 million in 2019, a 3.8-fold increase. Despite a significant reduction in traffic in 2020 due to the COVID-19 pandemic, passenger traffic volume almost doubled in 2021 compared to the previous year, confirming the high potential for demand recovery after the end of the war in the country.

The main statistical characteristics of long-term market dynamics are given in Table 1.

The above indicators demonstrate a stable long-term trend towards market growth, although individual years show significant deviations from this trend, attributable to external factors that are largely independent of air carriers' activities. The dynamics of passenger traffic in Ukraine are presented in Fig. 1.

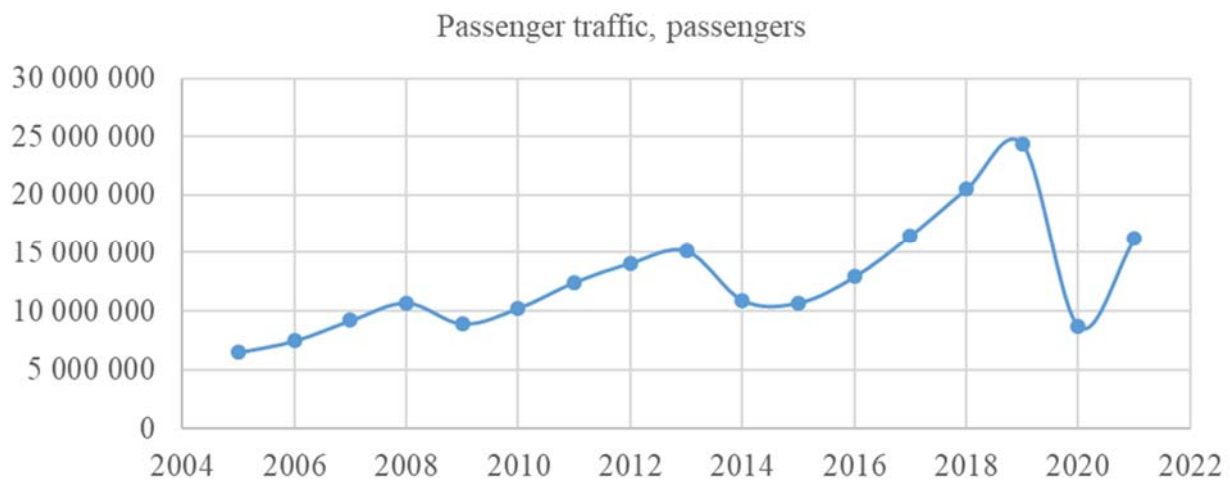
The time series clearly distinguishes three crisis periods, the first of which falls in 2008–2009 and is associated with the global financial crisis. During this period, income declines and a decline in economic activity led to a decrease in passenger traffic of almost 17%. The second crisis period (2014–2015) was caused by the annexation of Crimea, hostilities in eastern Ukraine, the closure of some airports, and a change in the structure of international air traffic. Despite this, the market has entered a phase of accelerated growth since 2016.

Table 1

Main characteristics of the retrospective dynamics of the passenger air transportation market in Ukraine (2005–2021)

Indicator	Value
Initial passenger traffic, million passengers (2005)	6.45
Maximum passenger traffic, million passengers (2019)	24.34
Final Passenger Traffic, million passengers (2021)	16.22
Absolute growth, million passengers	9.77
Growth coefficient	2.51
Average annual growth rate, %	14.7
Average annual rate of increase, %	8.9

Source: calculated by the authors based on data from the State Aviation Service of Ukraine (n.d.).



Source: constructed by the author based on data from the State Aviation Service of Ukraine (n.d.)

Fig. 1. Dynamics of passenger traffic at Ukrainian airports in 2005–2021

The third crisis stage began in 2020 due to the COVID-19 pandemic, where the temporary suspension of international air traffic led to the largest reduction in passenger traffic over the entire observation period – over 64%. However, by 2021, the growth rate had already exceeded 87%, indicating high demand elasticity after the lifting of quarantine restrictions.

Analysis of the dynamics of real incomes of the population showed that they were one of the key factors in the development of the aviation market. After adjusting the indicators to 2005 prices, it was found that in 2005–2021, the population's real incomes more than doubled. At the same time, their average growth rate (13.7%) exceeded the average growth rate of air transportation costs (8.2%), thereby increasing the economic accessibility of air travel. A study of average air ticket costs enabled the identification of two stages in the development of airline pricing policies. In 2005–2016, the strategy of market expansion through the development of budget transportation and tariff containment prevailed; starting in 2017, the average cost of air transportation gradually increased, a trend associated with increased demand, the development of international routes, and improved service quality.

A comparison of time series for real incomes of the population, average air ticket costs, and passenger traffic showed a stable relationship between the economic accessibility of air travel and passenger volumes. In periods when the growth rate of incomes exceeded that of air ticket prices, the market experienced the highest rates of development. In contrast, the deterioration of the macroeconomic situation or a sharp decrease in the population's income led to a significant reduction in transportation volumes. This, in turn, justifies combining econometric modeling with a scenario

approach, which allows for accounting for possible changes in the external environment during the post-war restoration of Ukraine's aviation industry.

The purpose of econometric modeling was to quantitatively assess the impact of key economic factors on demand and build a model suitable for scenario forecasting. The dependent variable was passenger flow in Ukrainian air transport, the most representative indicator of market demand. The independent variables included the population's real income per capita and the average cost of an air ticket, which characterize the population's purchasing power and the affordability of air transportation, as these factors are considered the main determinants of transport demand in modern economic models.

The model parameters were estimated using multiple linear regression. Preliminary data analysis did not reveal a stable nonlinear trend but did show structural breaks associated with crisis events. The results of the estimation yielded the following regression relationship:

$$N = 2954 + 931x_1 - 16.8x_2,$$

where N – passenger flow, thousand people;

x_1 – real income per person, thousand UAH;

x_2 – average price of air tickets, USD.

It is worth noting that, due to the limited availability of historical data on passenger air transportation prices, the average air ticket price was estimated using the most representative air travel destinations and then generalized to characterize the overall market level. The calculation included four representative routes: two international destinations (Turkey and Poland) and two domestic destinations (Odesa and Lviv), which reflect different segments of passenger air transportation in Ukraine.

The average ticket price indicator was calculated using annual average round-trip ticket prices for these destinations. To account for differences in route popularity and flight distances, a weighted-average approach was applied, considering the share of passenger traffic by destination, each route's distance, and the average passenger flight distance. The values obtained were converted to US dollars using the official UAH/USD exchange rate. The resulting time series of average air ticket prices was used as the explanatory variable (x_2) in the regression model of passenger traffic demand.

The obtained coefficients are consistent with the economic theory of demand. A positive coefficient for the income variable indicates a direct relationship between the population's welfare level and the demand for air transportation: a 1 thousand UAH increase in real income is associated with an increase in forecast passenger flow of approximately 931 thousand people. In contrast, a 1 USD increase in the average air ticket cost reduces the forecast passenger flow by 16.8 thousand people. Thus, the Ukrainian air transportation market is much more sensitive to changes in the population's income than to moderate fluctuations in air ticket prices.

The model's adequacy was assessed by analyzing residuals and comparing actual and estimated passenger traffic values. The results showed that the model adequately captures the general long-term trend of market development. The largest deviations are observed in 2009, 2014, and 2020, which are explained by exogenous shocks that cannot be captured solely by economic variables. The statistical quality of the constructed regression model was assessed using the main criteria of regression analysis, including the coefficient of determination (R^2), the adjusted coefficient of determination, Fisher's F-test, Student's t-tests, and the corresponding p-values. The obtained results indicate a moderate explanatory capacity of the model. The coefficient of determination (R^2) was 0.380, indicating that approximately 38.0% of the variation in passenger traffic is explained by the selected explanatory variables. Given the number of regressors and the limited sample size, the adjusted coefficient of determination was 0.291. The overall statistical significance of the regression model was confirmed by Fisher's test ($F = 4.288$; $p\text{-value} = 0.035$), indicating that the explanatory variables jointly have a statistically significant effect on passenger traffic at the 5% significance level.

The analysis of individual coefficients showed that real income per person has a statistically significant positive effect on passenger traffic ($t = 2.667$; $p\text{-value} = 0.018$), confirming the importance of household purchasing power in shaping demand for air transportation. At the same time, the coefficient on the average air ticket price has a negative sign, consistent with the economic theory of demand; however, its statistical significance was not confirmed in the sample analyzed ($t = -0.712$; $p\text{-value} = 0.588$). This suggests that, during the analyzed period, changes in passenger traffic were more strongly associated with variations in population income than with moderate changes in air ticket prices.

Overall, the statistical characteristics obtained support the applicability of the regression model to scenario-based forecasting of the Ukrainian air transport market. At the same time, the moderate value of the coefficient of determination indicates the influence of additional external factors, including macroeconomic shocks, political instability, and crisis events, which should be considered when interpreting the forecasting results.

To assess the statistical quality of the model, the main criteria of regression analysis were used (Table 2).

Table 2

Main statistical characteristics of the constructed model

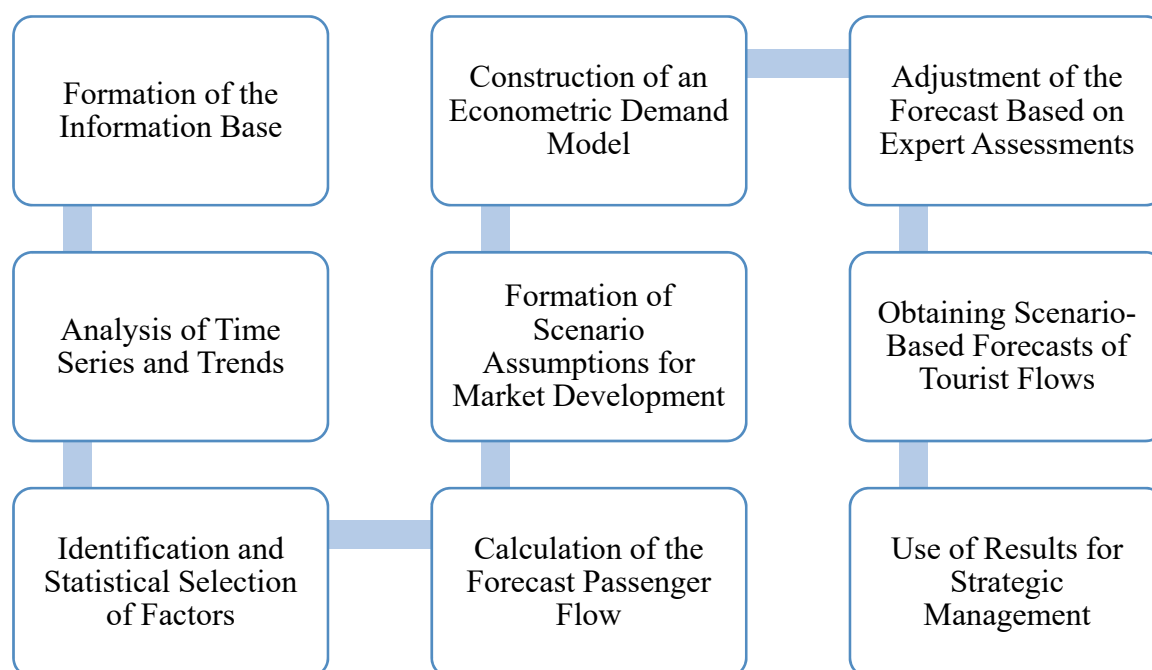
Indicator	Characteristic
Model type	multiple linear regression
Number of observations	17
Number of factors	2
Dependent variable	passenger flow
Main explanatory variables	real incomes of the population; average price of a plane ticket
Economic interpretation of coefficients	corresponds to the economic theory of demand
Practical purpose	scenario forecasting of market development

Source: compiled by the authors.

The advantage of the constructed model is its ability to account for scenario assumptions. In particular, the impact of increased flight safety, digitalization, expansion of the international route network, and improvements in the quality of tourism products can be reflected in the adjustment coefficient of the forecast passenger flow. This ensures the integration of econometric analysis with scenario forecasting and increases the model's practical value for strategic planning in the development of Ukraine's aviation and tourism industries.

The constructed econometric model is the basis of the proposed methodological approach to forecasting the development of the passenger air transportation market. At the same time, its use without taking into account external factors is insufficient, since tourist demand is shaped by economic, social, and geopolitical processes, a significant part of which is not amenable to direct statistical description. In view of this, a scenario-forecasting algorithm has been proposed that combines econometric modeling, time-series analysis, expert assessment, and a scenario approach (Fig. 2).

A feature of the proposed algorithm is the coordination of statistical patterns in market development with forecast changes in key factors that shape tourism demand. At the first stage, the forecasting information base is formed. For this purpose, statistical data on passenger flows, real incomes of the population, average air ticket prices, macroeconomic indicators, and characteristics of tourism market development are used. Based on the information received, time series are formed and used for further econometric analysis.



Source: author's development.

Fig. 2. Algorithm for forecasting tourist air passenger flows

The second stage involves determining the object of forecasting. In the study, tourist passenger traffic was chosen as the indicator that most fully characterizes the development of the passenger air transportation market, regardless of a specific carrier, and reflects the real demand for tourist air travel.

The third stage involves selecting influencing factors. An initial list of potential factors is compiled from an analysis of the scientific literature and expert assessments, and their significance is then tested statistically using correlation analysis.

The next stage is the construction of an econometric model, which enables quantitative assessment of the impact of selected factors on the volume of tourist passenger traffic. Parameter estimation is performed using multiple regression, enabling further scenario modeling.

At the next stage, alternative scenarios for market development are formed. Unlike traditional forecasting, the scenario approach involves forecasting not only the performance indicator, but also possible trajectories of changes in external factors. For this purpose, basic, optimistic, and pessimistic scenarios have been developed that differ in their assumptions about economic growth rates, population income dynamics, air transportation costs, the speed of airport infrastructure restoration, security levels, and the development of the tourism sector.

At the final stage, the forecast values of the factors are substituted into the econometric model, after which the results are adjusted to account for qualitative factors that are difficult to formalize statistically.

The proposed algorithm integrates two complementary forecasting circuits: statistical, based on econometric modeling, and scenario-based, which accounts for possible changes in the external environment. The combination of their results increases the validity of forecast estimates and ensures adaptation of the forecast to alternative options for the development of the socio-economic situation.

The model developed served as the basis for calculating three scenarios for the growth of air transport demand by 2030. Its main advantage is the ability to assess alternative market development trajectories in response to changes in key environmental factors. Unlike traditional extrapolation, the scenario approach allows you to develop several forecast scenarios and assess the consequences of various management decisions. The post-war restoration of Ukrainian civil aviation will be marked

by significant uncertainty regarding the pace of economic growth, the speed of airport infrastructure restoration, Ukraine's integration into the European aviation space, the purchasing power of the population, and air carriers' tariff-setting policies. That is why using only one forecast does not allow us to adequately account for possible scenarios.

The study used a classical approach to scenario analysis, which involves constructing three scenarios in which the structure of the econometric model remains unchanged and only the forecast values of the main factors change (Table 3).

Table 3

Results of scenario forecasting of demand for air transportation in Ukraine until 2030

Indicator	Pessimistic	Base	Optimistic
Real income per person, thousand UAH	19.6	21.8	25.8
Average airfare, USD	360	360	360
Additional effect of improving the quality of services	–	10%	is taken into account indirectly
Forecast passenger flow, thousand people	15,154	18,922	20,426
Deviation from the baseline scenario, %	19.9	–	8.0

Source: calculated by the authors.

The baseline scenario assumes the preservation of the main trends from the previous period. It assumes a gradual increase in the population's real incomes, a moderate change in air ticket costs, an improvement in the quality of aviation and tourism services, and a gradual approach to international safety standards.

The optimistic scenario is based on the assumption of accelerated post-war economic growth in Ukraine. It is assumed that there will be an active post-war economic recovery, a significant increase in population incomes, a rapid opening of airspace, a large-scale restoration of international routes, active development of the tourism industry, and stabilization of air ticket prices. This scenario corresponds to the experience of some countries in Central and Eastern Europe, where, after integration into the European aviation market, the expansion of the route network and the development of budget transportation have become factors in accelerated growth in passenger traffic.

The pessimistic scenario assumes a slower economic recovery, limited growth in household incomes, a long-term recovery in airport infrastructure, and subdued tourism demand. Even under such conditions, projected passenger traffic exceeds levels seen during the crisis years, indicating the potential for recovery in the Ukrainian aviation market. The results of the scenario analysis show that the key factor in the future development of the aviation market is the dynamics of real household incomes. The growth in purchasing power leads to a larger increase in passenger traffic than the possible decrease in demand due to higher air ticket costs, indicating that, in the medium term, the main prerequisite for the industry's development will be Ukraine's macroeconomic recovery.

At the same time, scenario analysis demonstrates that even under adverse conditions, a gradual recovery of demand is possible after the end of hostilities. This provides a basis for strategic planning for the development of airport infrastructure, the route network, and state policy in civil aviation.

The modeling results indicate that the prospects for the recovery of the Ukrainian air transport market will largely depend on macroeconomic dynamics, primarily on changes in household incomes. The observed dependence is consistent with the theory of transport demand, which holds that aviation services are characterized by high income elasticity and lower sensitivity to moderate price fluctuations. The obtained results are generally consistent with the conclusions of international aviation organizations. In particular, a study by the International Air Transport Association (IATA, 2026) notes that after the COVID-19 pandemic, it was the recovery of household incomes that became the main driving force behind the rapid growth in global demand for air travel, while the impact of fare increases was less significant due to high pent-up travel demand. Similar trends are noted in materials from Airports Council International (ACI World, 2025), where economic recovery,

urbanization, and increased international mobility are identified as key factors for long-term passenger growth.

Similar conclusions are drawn in studies by the International Civil Aviation Organization (ICAO, n.d.), which emphasize that the pace of post-crisis recovery of the aviation market is largely determined by a country's economic growth rate, the openness of international transport markets, and integration into global logistics networks. This confirms the feasibility of using the population's real incomes as one of the key demand factors in the proposed model.

At the same time, the proposed approach differs from most existing air transport forecasting models by accounting for the specifics of market functioning under structural instability. Most traditional models are designed for conditions of relatively stable development of transport systems and do not account for large-scale structural changes characteristic of Ukraine: airspace closure, infrastructure damage, migration processes, and uncertainty in the timing of the resumption of regular air services.

Taking these features into account led to the use of the scenario approach as a strategic forecasting tool. Its advantage lies in the ability to evaluate several market development options in response to changes in external conditions, rather than relying on a single forecast trajectory.

However, the study has several limitations. First of all, they are related to the limited availability of statistical data on the average cost of air tickets in Ukraine and the complexity of quantitatively accounting for qualitative demand factors. Such factors include the level of aviation safety, the speed of airport recovery, state policies supporting air carriers, and institutional changes. In the proposed model, their influence is accounted for through scenario adjustments; however, further research may aim to expand the model's factor structure. In addition, the model primarily focuses on assessing long-term trends and does not account for short-term fluctuations associated with seasonality, currency fluctuations, aviation fuel prices, or epidemiological risks. For such tasks, it is advisable to use time-series models (e.g., ARIMA or SARIMA) or machine-learning methods, which can complement the proposed scenario approach.

Conclusions and prospects for further research. The article substantiates a methodological approach to forecasting demand for Ukrainian air transportation under conditions of high uncertainty, combining econometric modeling and scenario analysis. This approach aims to assess possible trajectories of market recovery in the post-war period.

The analysis of scientific approaches allowed us to identify the main groups of factors shaping demand for air transportation: economic, price, institutional, and qualitative. It was established that the most stable quantitative determinants are the population's real income and the average cost of air tickets, while other factors should be accounted for through scenario adjustments.

Based on the analysis of retrospective data for the period 2005–2021, time series of passenger traffic, real incomes of the population, and average prices for air transportation were constructed. It was found that, despite periods of crisis, the overall market trend is upward, confirming the long-term potential for the development of Ukraine's aviation sector.

A regression model of demand for air transportation was constructed, which confirmed the determining role of income in shaping passenger traffic. It was established that the impact of income changes is more significant than that of air ticket prices, consistent with the laws of transport demand. Based on the model, three scenarios for the development of the Ukrainian air transport market until 2030 were developed: basic, optimistic, and pessimistic. A comparative analysis of the scenarios showed that the key factor in the development of the aviation market is the dynamics of real incomes of the population, while price fluctuations are of secondary importance in the medium term. Additional factors, such as the quality of aviation services, flight safety, and digitalization, may contribute to further growth in passenger traffic. The development of tourism infrastructure can increase passenger traffic by about 10%, a significant reserve for the industry's growth.

The practical value of the study lies in the possibility of using the results obtained for strategic planning of aviation infrastructure development, airport restoration, route network formation, and the determination of state policy priorities in the field of civil aviation and tourism.

The scientific novelty of the study lies in the combination of econometric modeling with a scenario approach to forecasting demand for air transportation under conditions of structural market instability, which allows for the consideration of various options for the post-war development of the Ukrainian economy and increases the adaptability of forecast estimates.

Further research should focus on expanding the model's factor structure by including institutional, geopolitical, and infrastructure indicators, and on using modern machine learning methods and time-series models to improve the accuracy of short- and medium-term forecasting. A separate direction is to assess the long-term impact of Ukraine's integration into the European aviation space on the market's structure and competitive environment.

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