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UDC 366.1:656.73(497.11)

CERIF: S 136, T 310

DOI: 10.51204/Anali_PFBU_24201A

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FACTORS OF THE EVOLUTION OF AIR PASSENGER SEGMENTATION: THE CASE OF THE SERBIAN AIR TRAVEL MARKET

The paper investigates the evolution of air passenger profiles in terms of regulatory environment, competitive landscape, socio-economic and demographic trends. The research is supported by passenger surveys carried out since 2001. The surveys have been designed to provide objective and in-depth insights into the preferences and behaviors of air passengers in the

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Serbian market. The resulting passenger segments are categorized based on socioeconomic and travel purpose criteria, but the surveys conducted at Serbian airports reveal that competition triggered the service quality to become a major issue in the Serbian market, after the entrance of low-cost carriers. The research of future projections of air passengers in Serbia is based on the Delphi method for two-time horizons (2025 and 2035) and three future scenarios are proposed.

Key words: *Air passenger profiles*. – *Air transport*. – *Passenger surveys*. – *Air transport market deregulation*. – *Projections*.

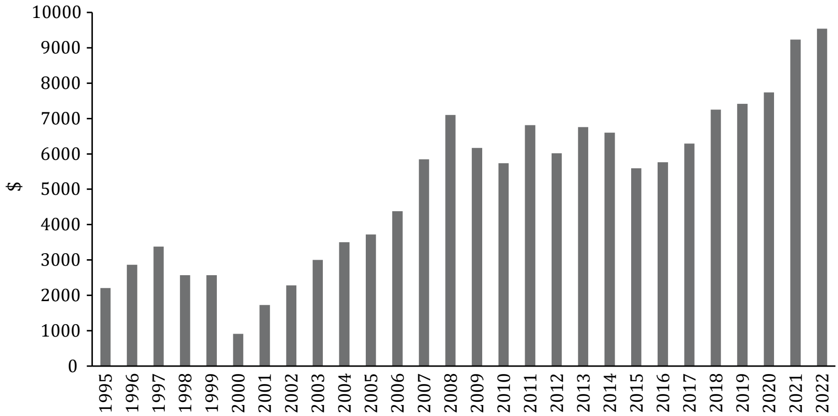
1. INTRODUCTION

In order to perceive the development of the air transport market in Serbia during the 2000–2023 period, the air passenger profile, segments, and their evolution are analyzed. This analysis examines how air passenger profiles changed over time driven by the regulatory environment, competitive landscape, and socioeconomic and demographic trends.

In the past three decades, the Serbian air transport industry has adapted slower (in the beginning of considered period) or faster (from 2014) to new market conditions. The economic and political situation in the country has been changing dramatically. In total, the population decreased from 7.7 million in 1994 to 6.6 million in 2023 (Statistical Office of the Republic of Serbia 2024). The decrease in the population is caused by persistently low birth rates, high mortality rates, and continued emigration. Despite immigration from neighboring countries, the population decline trend is very pronounced. According to the World Bank data, the largest negative net migration (the total number of immigrants less the annual number of expatriates) was in 1997 (-496,000) (Federal Reserve Bank of St. Louis 2024). Significant emigration of highly educated people (university and scientific staff, IT experts, etc.) and skilled labor (medical staff, professional drivers) has been noted in the past three decades, but official data from censuses and registration instruments largely underestimate the volume of international migration (Rašević 2016).

The period from 2000 to 2023 was characterized by an improvement in the economic situation (GDP per capita was USD 914.7 in 2000, and USD 9,537 in 2022, Figure 1). Serbia went through a process of transition to a market-based economy and from a developing and low-income country crossed to the upper middle-income category. Despite many global crises (COVID-19, economic recession, Russian-Ukraine war, war in Gaza), affecting various markets and industries directly, Serbia has managed to preserve the stability of its economy based on cumulative real GDP growth during the period 2020–2023 of around 12% (National Bank of Serbia 2024).

Figure 1. GDP per capita (current USD)



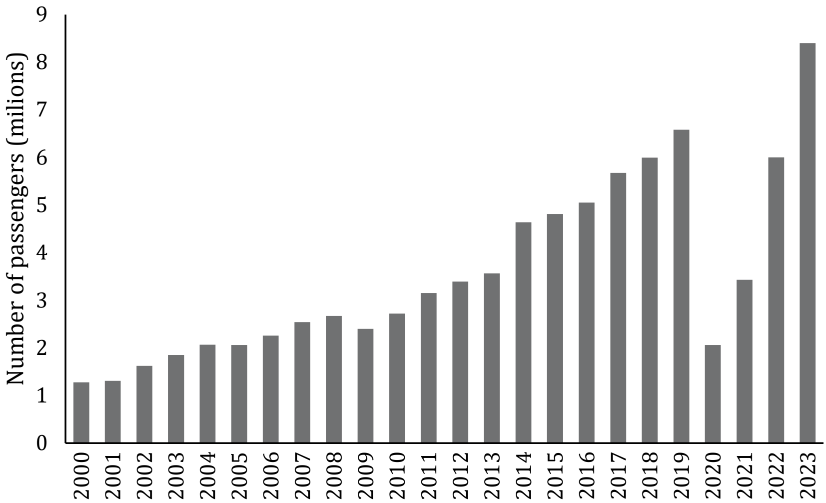
Source: authors, based on NBS data.

It is worth noting that the GDP per capita in period 1995 to 2000 was between USD 2,207 and USD 3,380. The GDP per capita in the late 1990s was approximately three times lower than the GDP per capita in 2022.

Air transport regulation in Serbia has evolved in line with international standards, but in the past three decades, few regulatory factors fostering a favorable business environment can be identified. The negotiations about the Stabilization and Association Agreement (SAA) between Serbia and the European Union (EU) started in 2005 (Ministry of European Integration – Serbia 2007). This was an important framework for cooperation between the EU and Serbia, which aimed to promote political stability, economic development, and European integration in the country. The SAA was signed in April 2008, and the ratification process in the member countries of the European Union was completed on 18 June 2013. Subsequently, in June 2006, the EU and the countries of South East Europe signed an agreement on the establishment of a European Common Aviation Area (ECAA) by 2010. This agreement, also known as the Open Skies Agreement, enabled the arrival of low-cost airlines to Serbia. Apart from these agreements on a multilateral level, Serbia has been extensively negotiating and signing bilateral air services agreements (covering aspects such as route rights, capacity, safety standards, and regulatory cooperation) with numerous countries, with the aim of expanding its air connectivity. During this period, Serbia has been working towards aligning its aviation regulations with EU standards, which involves monitoring compliance with safety, security, and operational standards, as well as enforcing regulations related to ticketing, pricing, and passenger rights (Civil Aviation Directorate of the Republic of Serbia, 2013, 2024).

Political and economic changes in Serbia had a tremendous influence on the air transport market and its growth. The number of passengers at Serbia's airports (Belgrade Nikola Tesla and Niš Constantine the Great) has increased more than sixfold (from 1.28 million in 2000 to 8.4 million in 2023), Figure 2. In 2020, due to the COVID-19 pandemic, the number of passengers at Serbian airports decreased to 2.06 million.

Figure 2. Number of passengers at airports in Serbia (2000–2003)



Source: authors.

This paper provides an empirical analysis of the evolution of passenger characteristics in Serbia. The analysis is based on data collected from the surveys conducted at airports in Serbia between 2001 to 2017 and the Delphi method, supported by the findings obtained from the 2021 SYN+AIR survey.[1] Passenger segmentation and profiles are studied to better understand consumer behavior, which may support policy-making and generate ideas for tailoring products and services for airlines (airline

[1] This survey was conducted online due to the world pandemic of COVID-19, for the purpose of the SYN+AIR project (894116) from the H2020-SESAR-2019-2 call. The survey was active for one month and respondents were mostly from Greece, Italy, Spain and Serbia (where project partners originated from), as well as from the other countries in Europe.

schedule, including appropriate destinations in their offer, in-flight services, aircraft class configuration, etc.) and airports (airport access services, lounges access, parking services, technology innovations, digitalization, passengers experience improvement, etc.) in a more effective way.

2. LITERATURE REVIEW

Selected papers are presented to provide a short overview of recent research related to market segmentation, passenger profiles, and the application of the Delphi method in developing future scenarios. Over the past two decades, numerous studies have been conducted to provide an understanding of passenger segments in air transport. Harrison *et al.* (2015) proposed a new market segmentation model by including time sensitivity, degree of engagement, proficiency of traveler, and trip purpose to identify groups of international air passengers at Brisbane International Airport. Wittmer and Hinnen (2016) argued that the need for new segmentation is induced by the diverse cultural backgrounds of the passengers, the power of digitalization, different lifestyles or environmental concerns.

Generally, passenger profiles are changing over time, and in the upcoming period they will depend on future trends in socioeconomic, demographic, and technological factors affecting traveler behavior. This claim is confirmed in Cho and Min (2018), which considered the characteristics of low-cost carriers (LCCs) and non-LCCs passengers through similarities and dissimilarities between two time horizons (2005 and 2015) in the USA. The main finding is that in the past LCCs were able to meet the needs of price-sensitive passengers, but there is evidence of a considerable shift in the passenger mix according to airline type as a result of changing customer behaviors and airline services. Kluge *et al.* (2018) determined six future air passenger profiles for 2035, taking into account changes in environmental awareness, increased use of information and communication technologies, and disruptive developments, such as autonomous driving.

Concerning the use of the Delphi method in developing future scenarios, there are numerous papers that provide guidelines for this process (Linstone, Turoff 2011; Okoli, Pawlowski 2004; Melander 2018). There are also many papers applying the Delphi method in research related to air transport. Mason and Alamdari (2007) conducted the Delphi panel for the future trends in the European air transport sector. They concluded that economic growth, business confidence, people's desire to travel, and price are key drivers of demand for air travel. Linz (2012) presented scenarios for the future of aviation in 2025. According to expert estimations, traffic growth on long-haul routes will be primarily linked to emerging countries, a number of substitution threats, liberalization and deregulation, increasing industry vulnerability, the finiteness of fossil fuels, and emissions trading. The emergence of low-cost cargo carriers and air cargo substitution by sea transportation were identified as potential surprises. Kluge *et al*. (2020) considered future projections of European air passengers in the light of intermodal, door-to-door (D2D) travel, with the 2035 time horizon. Their research resulted in three possible future scenarios obtained from a hierarchical cluster analysis: personalized D2D travel (highly personalized digitally-controlled future travel), integrated D2D travel (collaboration to offer integrated services and create valuable travel time), and the game changer (full monetization of the cabin by tech companies).

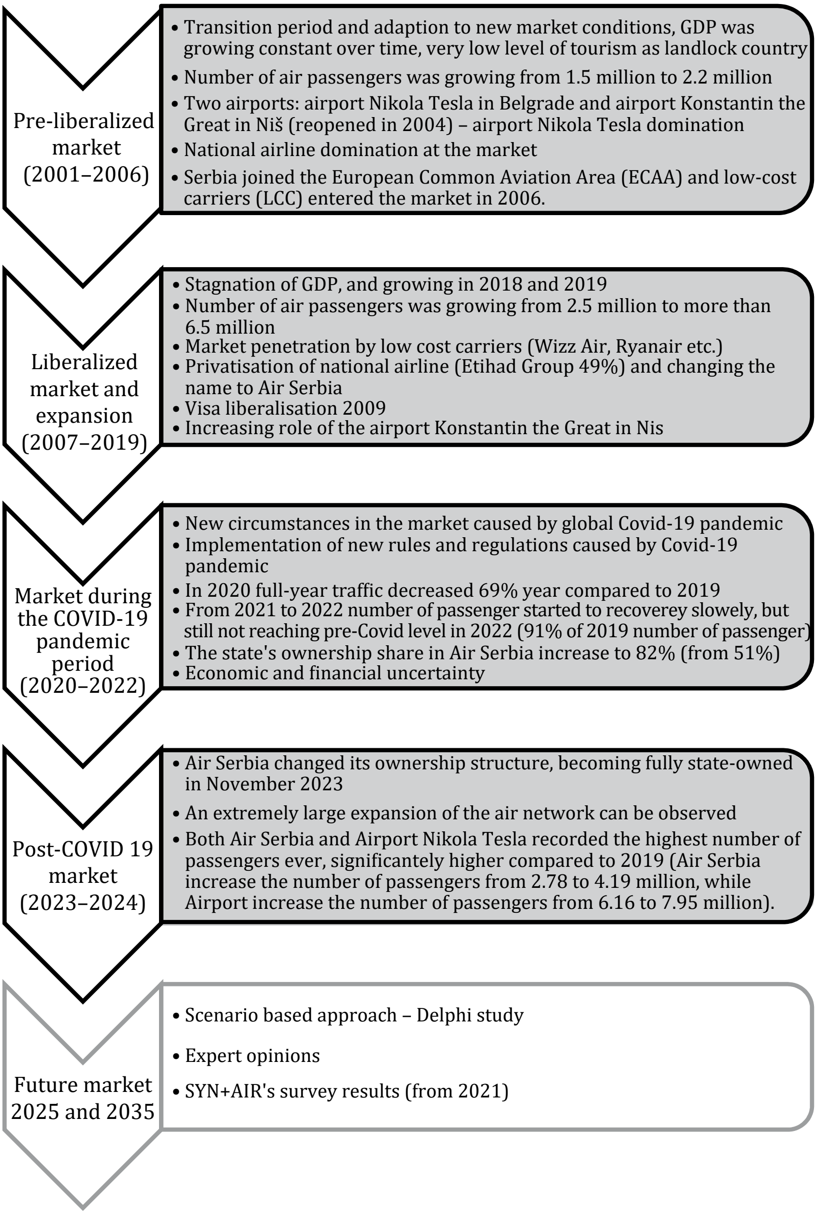
3. METHODOLOGY AND OBSERVED PERIOD

Our approach to the air passenger segment evolution in the Serbian air travel market is based on the analysis over different periods of time (Figure 3). These periods featured specific events and processes that marked the entire period.

Appropriate analysis of these periods is supported by the results from surveys conducted through face-to-face interviews at Belgrade (primarily international) and Niš (small regional international) airports, during the summer or winter schedule, covering one week, as well as online passenger and Delphi surveys conducted during 2021. There were eight face-to-face surveys between 2001 and 2017 (Table 1). The surveys were designed to enable a general analysis of the passenger profile at the airports in Belgrade and Niš. It was presumed that the characteristics of departing and arriving passengers are very similar because the flows in the two directions were symmetrical. Consequently, only departing passengers were interviewed due to the activities and the time that they spent in the terminal. The interviews were carried out in the check-in area and at the airport lounge, after passengers had passed through security and passport control, but before proceeding to the gate.

Finally, a market forecast for the years 2025 and 2035 is given. These forecasts for the air travel market in 2025 and 2035, and the appropriate passenger profiles, are defined based on expert opinions expressed in the Delphi study (March/April 2021) and supported by the last SYN+AIR survey conducted online (April 2021, Table 1).

Figure 3. Serbian air travel market characteristics during different periods



Source: authors.

Table 1. Information about the surveys

Year	Survey period	Number of respondents	Year	Survey period	Number of respondents
2001	27 Jul – 02 Aug	875	2010	15 Mar – 21 Mar	1475
2002	21 Apr – 27 Apr	1058	2013	April–May	766
2003	30 May – 05 Jun	1039	2017	09 May – 18 May	502
2005	12 Dec – 18 Dec	1109	2021	March–April	12 experts
2006	18 Dec – 24 Dec	1023	2021	April	562

Source: authors.

The following subsections explain each of these periods in more detail, providing better insight into Serbian market conditions as well as European market conditions.

3.1. Pre-Liberalized Air Transport Market in Serbia (2001–2006)

After a long period of political and economic isolation, conditions for the development of air transport were slowly created in the country, and all the industry stakeholders had to adapt to these changes. Moreover, they had to catch up to the new trends on the global market (globalization, liberalization, new business models, etc.). Regarding the situation in the Serbian air travel market, it can be observed that regulatory conditions for LCC entrance to the market were created in 2006. During the period from 2000 to 2006, Serbia went through a process of transition from a regulated to a market-based economy and experienced fast economic growth. During that period, the Serbian economy grew 4%–5% annually, average wages quadrupled, and economic and social opportunities improved (World Bank Group, 2019). The key drivers for air transport demand were geopolitical (visa restrictions, outgoing tourism, migrations, etc.) and economic (personal income, etc.).

Thus, the period before the entry of LCC into the market was characterized by the dominant role of the national carrier, Jat Airways,[2] which performed most of the international traffic. International air transport was governed

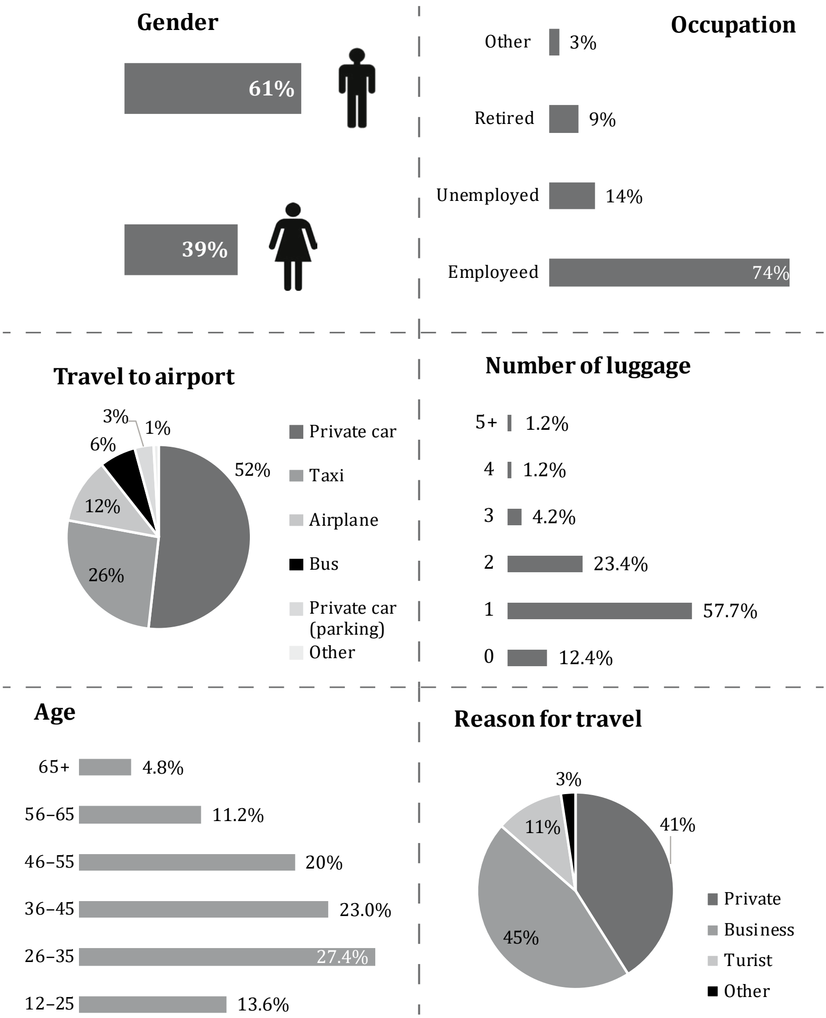
[2] The national airline was known as Yugoslav Airlines (JAT) until 2003, when its name was changed to Jat Airways. Following the partial privatization of the national airline in 2013, it was renamed Air Serbia.

by bilateral air services agreements between Serbia and other countries. In 2001 there were 8 other airlines, in addition to Jat Airways, whose transport services were available to passengers. The number of airlines doubled in 2006. Regardless of this increase in the number of carriers in the market, the flag carrier was a monopolist on a large number of routes, which also influenced high prices of tickets that only a small percentage of the population was willing to pay. During the period from 2001 to 2006, the number of passengers per year at Serbia's airports (Nikola Tesla Belgrade and Constantine the Great Niš) grew very slowly, from around 1.5 million in 2001 to 2.22 million in 2006.

At the same time, the EU created the internal market and removed all barriers, to foster heathier airlines competition. New airlines emerged providing very low air fares and offering more choice to passengers in terms of destinations, airports, and services. However, not all the EU countries developed at the same pace, due to a significant disproportion in the respective levels of socioeconomic development. The air transport market in Europe encompasses different national markets and the development was dictated by the time when the liberalization started, internal (national) regulations, macroeconomic and transport conditions, socioeconomic circumstances, etc. What was common for European countries was that most of them had a state-owned national airline already operating international and domestic traffic from its national home base(s). The development of the Serbian air transport market was very similar to other countries in Central and Eastern Europe (CEE) with a small shift in time. They all share a common history, similar economic system, and geographical location, which is grounds to put them in the same group and analyze the air transport development in Serbia from that perspective, with the inclusion of individual features for each country. During the 2000–2004 period, the air transport markets in CEE countries developed very slowly, despite being required to join the common EU/EEA single aviation market and open their national markets. Since 2004 LCCs have been the main driving force behind the changes in the air transport market in the CEE (Fu *et al.* 2010).

The most important results from surveys, with the total sample size (overall 5,104 respondents) for the period from 2001 to 2006, are presented in Figure 4 as the average values for the observed period. The survey design was consistent across the years, the same principles were followed each year (air passengers were questioned after passing through security), which allowed for the comparison of the presented data. Figure 4 shows that from 2001 to 2006 men were air passengers in majority, most of them were employed, more than 50% used a car to access the airport, the majority of respondents carried only one piece of luggage, and passengers travelled equally for business and privately. During the observed period, respondents aged between 26 to 35 took the highest number of trips.

Figure 4. Passenger characteristics in the Serbian market, during the 2001–2006 period



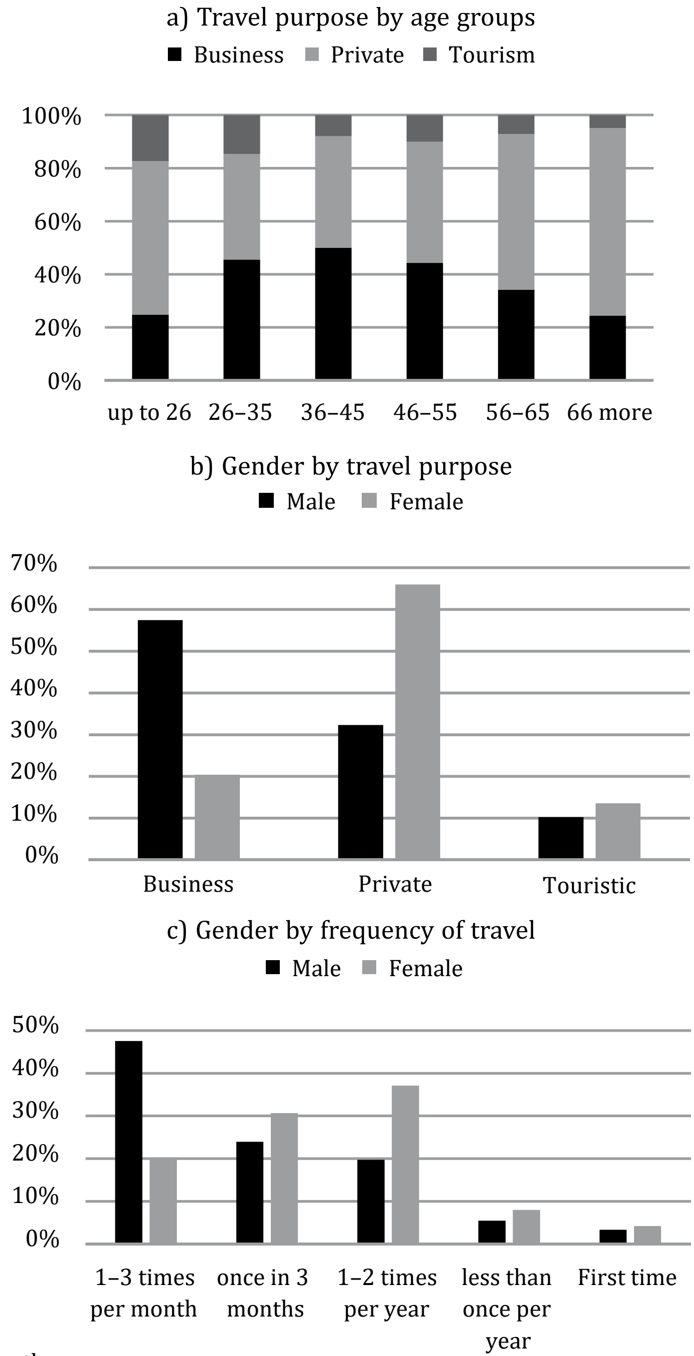
Source: authors.

Additional analysis were done to profile passenger segments and to gain a more detailed picture of the market. The selected cross-tabulation based on the data from a survey conducted in 2006 at the airport in Belgrade (1,023 responses) are presented to demonstrate the differences between air passenger age groups, gender, trip purpose, citizenship, social status, travel frequency, and airport access mode choice (Table 2, Figure 5). In all presented cross-tabulations, a dependence between examined variables is statistically confirmed by the Chi-square (χ^2) test of independence. The null hypothesis in the Chi-square test is that there is no dependence between the two observed variables and the alternative hypothesis is the opposite. In all analyses within this paper, the significance level (α) is set to 0.05 (5% risk of declaring that two variables are not independent when they are independent). The hypothesis of independence fails to be rejected if the test statistic is lower than the critical Chi-square value or if the corresponding p-value is equal or less than the significance level. If the test statistic is higher than the critical Chi-square value, the hypothesis of independence can be rejected. The obtained values of Chi-square tests and their statistical significance are presented in Tables 2 through 6, while for cross-tabulations graphically presenting those results are omitted so as not to overload the graphics.

The comparison between different age groups of respondents and their travel purpose is presented in Figure 5a, from which it can be concluded that people aged 56 and older mostly travelled for private and then business purposes. People aged between 46–55 travelled for private and business purposes equally. Younger people, aged 26–45, travelled mostly for business, and then for private purposes. Tourists were mostly up to 36 years of age.

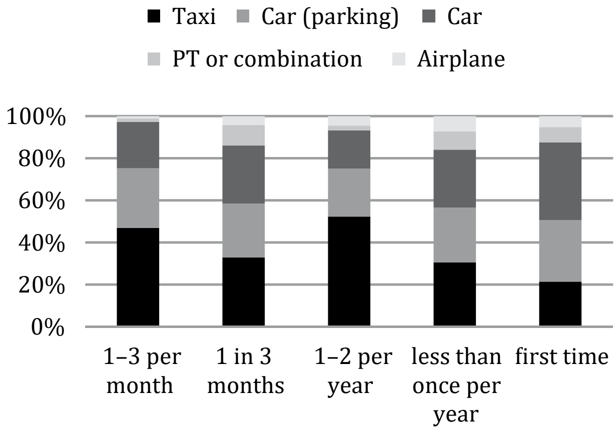
It is also interesting to note that women traveled more for private purposes while men traveled for business purposes. Within tourists, there were slightly more women than men. The differences in travel behavior by gender were mostly due to the complexity of activities more often experienced by women than men (e.g., women often have multiple tasks and activities, such as employment, household, child care, etc.). Men traveled more frequently than women. Most of the men traveled very often (1–3 times per month), while most of the women traveled 1 or 2 times per year.

Figure 5. Results of selected cross-tabulations
of the survey conducted in 2006



Source: authors.

d) Frequency of travel by airport mode choice



Source: authors.

Related to airport access mode choice, 41.8% of respondents were dropped off by car by someone, while 4.4% of respondents drove by car and parked in the airport parking. Taxi was the mode of choice for 28.5% of respondents, while 18.7% of them came by plane.[3] Bus as mode choice (Yugoslav Airlines/JAT Airways shuttle bus or public transport bus) was the mode choice for 4.8% of respondents, and all results are statistically significant at the level of risk lower than 5% (Table 2). Part of the passengers arrived at the airport on another flight and had connecting flights. They are presented in Table 2 as using airplanes as the access mode.

Table 2. Cross-tabulation of selected categories by travel purpose

	Travel purpose			
Airport access mode choice	Business Count (% within airport access mode choice)	Private Count (% within airport access mode choice)	Tourism Count (% within airport access mode choice)	Total Count (% within airport access mode choice)
Taxi	134 (46.7%)	130 (45.3%)	23 (8.0%)	287 (100%)
PT or combination	14 (36.8%)	17 (44.7%)	7 (18.4%)	38 (100%)
Car (dropped off by someone)	164 (39.0%)	200 (47.5%)	57 (13.5%)	421 (100%)
Car (parked)	24 (54.5%)	16 (36.4%)	4 (9.1%)	44 (100%)

[3] The survey from 2006 was conducted in front of gates, therefore transfer passengers (arriving by plane) were included in the sample.

Airplane	58 (30.9%)	106 (56.4%)	24 (12.8%)	188 (100%)
Travel purpose by airport access mode cross-tabulation: χ^2 (8, N = 978) = 20.554[a], p-value = .008, a: 1 cell (6.7%) has an expected count of less than 5. The minimum expected count is 4.47.				
Travel frequency	Business Count (% within travel frequency)	Private Count (% within travel frequency)	Tourism Count (% within travel frequency)	Total Count (% within travel frequency)
1–3 per month	244 (69.5%)	87 (24.8%)	20 (5.7%)	351 (100%)
1 in 3 months	107 (39.2%)	142 (52.0%)	24 (8.8%)	273 (100%)
1–2 per year	49 (17.8%)	176 (64.0%)	50 (18.2%)	275 (100%)
less than once a year	8 (12.1%)	45 (68.2%)	13 (19.7%)	66 (100%)
first time	4 (10.8%)	22 (59.5%)	11 (29.7%)	37 (100%)
Travel purpose by travel frequency cross-tabulation: χ^2 (8, N = 1002) = 226.059[a], p-value <.0001, a: 1 cell (6.7%) has expected count less than 5. The minimum expected count is 4.36.				
Travel group size	Business Count (% within group size)	Private Count (% within group size)	Tourism Count (% within group size)	Total Count (% within group size)
1	314 (44.2%)	325 (45.8%)	71 (10%)	710 (100%)
2	77 (30.9%)	134 (53.8%)	38 (15.3%)	249 (100%)
3	10 (32.3%)	15 (32.2%)	6 (48.4%)	31 (100%)
4	11 (64.7%)	3 (17.6%)	3 (17.6%)	17 (100%)
Travel purpose group size cross-tabulation: χ^2 (6, N = 1007) = 23.148[a], p-value = .001, a: 2 cells (16.7%) have an expected count of less than 5. The minimum expected count is 1.99.				
Citizenship	Business Count (% within citizenship)	Private Count (% within citizenship)	Tourism Count (% within citizenship)	Total Count (% within citizenship)
Foreigner	246 (46.4%)	227 (42.8%)	57 (10.8%)	530 (100%)
Expatriate	37 (30.6%)	77 (63.6%)	7 (5.8%)	121 (100%)
Serbian	129 (36.2%)	173 (48.6%)	54 (15.2%)	356 (100%)
Travel purpose by citizenship cross-tabulation: χ^2 (4, N = 1007) = 25.833[a], p-value <.0001, a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 14.18.				

Source: authors.

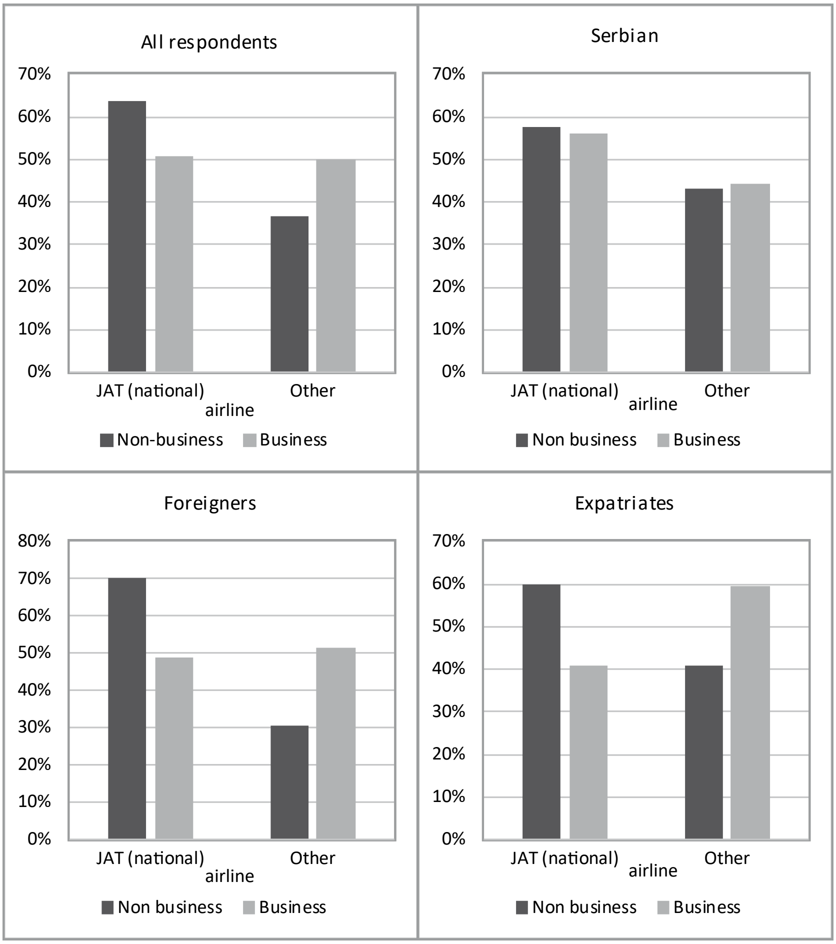
Business and private travelers came to the airport mostly by car (someone drove them to the airport), followed by taxi and plane. Business passengers more often left their cars in the airport parking compared to the passengers who traveled privately. Both used the Yugoslav Airlines/JAT Airways bus service equally. Tourists were usually brought by car to the airport, followed by plane and taxi. Business passengers travel very often, while most of the passengers who travel for private purposes usually travelled 1 or 2 times per year.

It is interesting to note that foreign passengers were dominant in all travel purpose categories. Foreign passengers were traveling mostly for business, while passengers from Serbia and expatriates were mostly traveling for private purposes. Passengers who travelled for tourism were also foreigners. Foreigners mostly came by plane, followed by taxi. Also, many of them had someone take them to the airport. Expatriates had someone to take them to the airport in most cases. Their second mode choice was the taxi. People from Serbia predominantly had someone take them to the airport. Among foreigners, there were almost 50% more men than women. Among expatriates, there were more women, while among Serbian passengers women traveled as much as men.

Figure 6 shows the distribution among airline choices between Jat Airways and all other airlines that were present in the Serbian air market during the observed period (Lufthansa, Montenegro Airlines, Alitalia, British Airways, etc.). Business passengers chose almost equally Jat Airways (207 respondents) and other airlines (205 respondents), while leisure passengers' choice was predominantly Jat Airways (306 respondents) vs. other companies (171 respondents) (Figure 6).

To identify meaningful groups of passengers, a Partitioning Around Medoids (PAM) cluster technique was performed (Ivanov, Kalić 2011). The results from PAM confirmed the general segmentation of passengers into users who are price sensitive, i.e., the leisure segment, and the users who are price insensitive, i.e., the business segment. During this period the business and non-business segments had almost equal shares (45% and 52%, respectively) and this proportion was stable over the years. Although this segmentation did not bring any novelty to a general market picture, it presents a correct assessment of the circumstances and environment at that time.

Figure 6. Airline choice by respondents' nationality and trip purpose (data from 2006 survey)



Source: authors.

3.2. Liberalized Air Transport Market and Expansion in Serbia (2007–2019)

The period between 2007 and 2017 featured substantial GDP fluctuation, which was improved in 2018 and 2019 when the Serbian economy showed signs of moderate recovery. By the end of 2019, the applied macroeconomic policy showed some positive results, which led to macroeconomic stability and improvements in the key economic indicators (e.g., price stability, intensified investments, increased GDP and employment, etc.). After Serbia joined the ECAA in 2006, the aviation market changed in terms of the structure of the market, entry, and competition. Soon after that, LCCs entered the Serbian market, causing a significant traffic increase at airports in Serbia. In the decade from 2007 to 2017, the number of passengers at Serbia's airports more than doubled, from around 2.5 million in 2007 to 5.6 million in 2017. The LCCs initially entered the market timidly, but with the arrival of one of the largest LCCs in Europe, Wizz Air, in 2010, the LCC expansion started bringing about certain changes.

Meanwhile, the Serbian national airline was rebranded from Jat Airways to Air Serbia in 2013, after Etihad acquired 49% ownership. The next important event happened in May 2015, when the U.S. and Serbian governments signed an Open Skies Agreement, which allowed for the introduction of direct flights to the United States. The first direct flight to New York, operated by Air Serbia, took place in June 2016. Due to the implementation of the Open Skies agreement, the abolition of the Schengen visa requirement in 2009, and new airlines entering the Serbian aviation market, Serbian citizens were able to use new services at significantly lower prices.

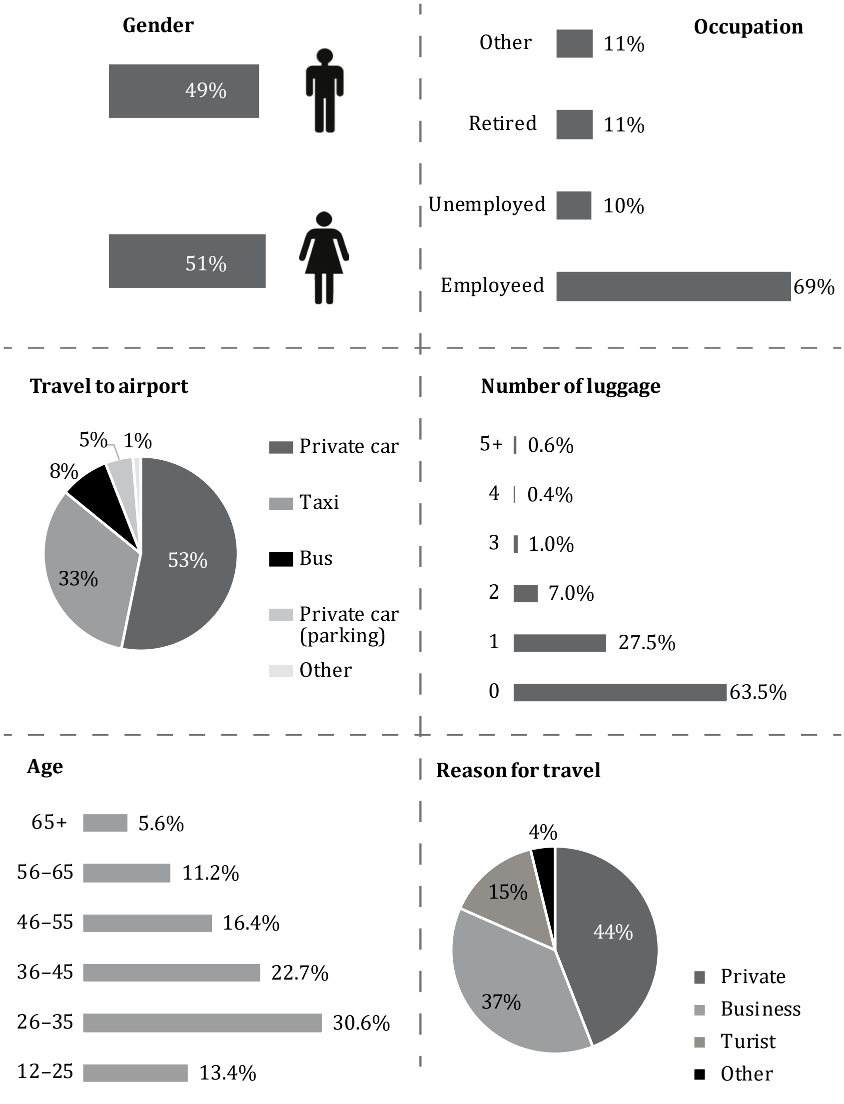
All these changes positively affected airport activity growth in Serbia. The number of passenger at Nikola Tesla Airport rose to 6.1 million in 2019. This was driven by the introduction of a larger number of new routes at more affordable prices. Along with Air Serbia, the Belgrade Airport also became a base airport for Wizz Air (in October 2012).

The Niš Airport, in southern Serbia, also experienced a strong growth in passenger traffic between 2007 and 2019. Many airlines had multiple attempts to establish sustainable transport services from this airport, but it was Wizz Air that succeeded, in 2015. Shortly after, Ryanair followed its example by announcing flights from the Niš Airport. In 2019 the Niš Airport handled more than 420,000 passengers.

The most important characteristics of passengers in the Serbian market in the period of 2007–2019 are presented in Figure 7. The total sample size for the 2007–2019 period (three surveys) is 2,743 passengers.

The surveys (in 2010, 2013, and 2017) showed that passenger segments have been changing over time in terms of age structure, distribution of passengers by occupation, trip purpose, mode choice for traveling to the airport, etc. (Figure 7). The gender share changed, reaching almost equal percentages. Regarding the occupation, it is notable that people without income travelled more than before the advent of LCC.

Figure 7. Characteristics of passengers in the Serbian market during the 2007–2019 period

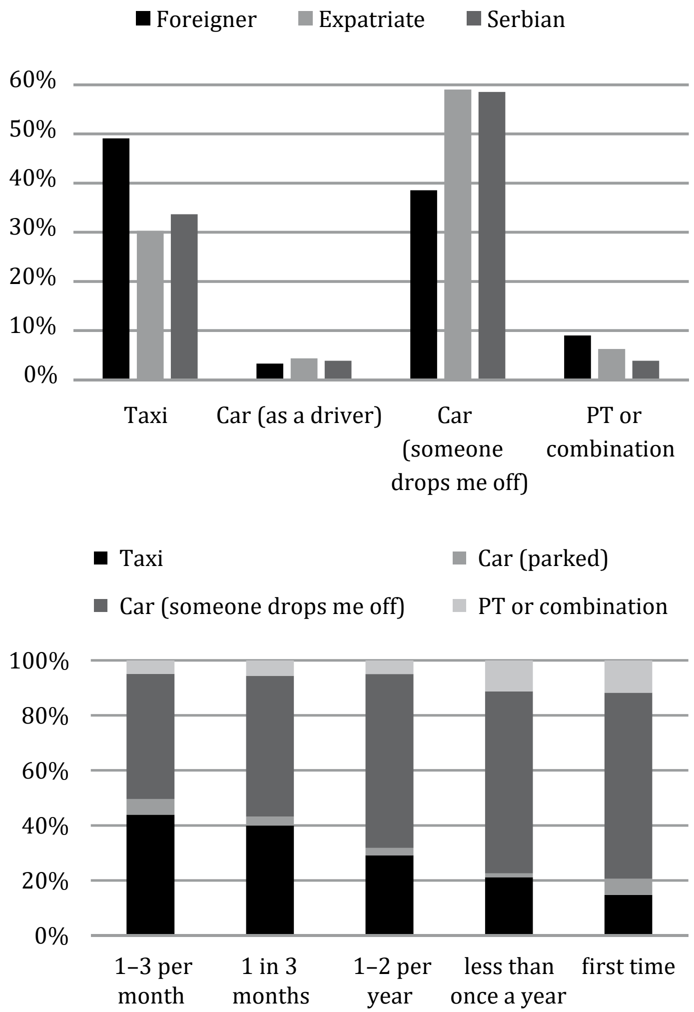


Source: authors.

The choice mode of traveling to the airport in 2010 changed slightly. Namely, private cars (drop off) still had the largest share (54.2%), but the share of taxis increased to 36.4%, while the share of buses decreased to 5.6%. The airport parking was used by only 3.9% of respondents. All these changes can be explained by the better social status of passengers and the improved Serbian economy.

The distributions of choice of travel mode to the airport, depending on citizenship and frequency of travel, are presented in Figure 8. Foreign passengers used taxi or public transport (PT) more than expatriates or passengers from Serbia, who were mostly dropped off by car at the airport. Related to frequency of travel, taxi as a mode choice was proportional to the frequency of travel, meaning that passengers who travelled more often tended to use the taxi more than less frequent travelers, who mostly used a car with someone else as a driver.

Figure 8. Mode choice to airport by a) citizenship and b) frequency of travel, in the 2010 survey



Source: authors.

Table 3 shows the same cross-tabulations as Table 2, now with data from the survey conducted at the Nikola Tesla Airport in March 2010. All results, differences among the categories, are statistically significant at the level of risk lower than 5%.

Table 3. Cross-tabulation of selected categories by travel purpose, in the 2010 survey (Belgrade Airport)

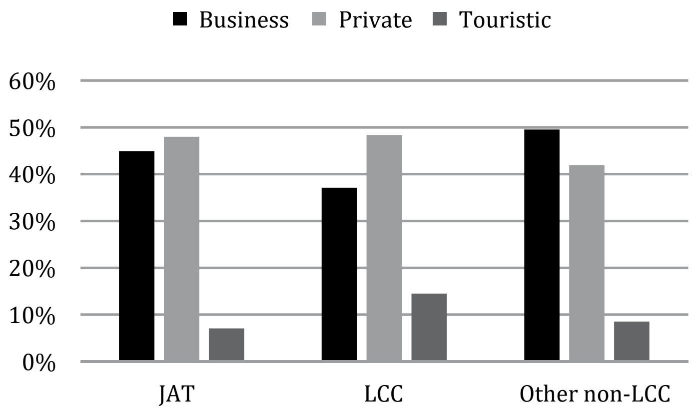
Travel purpose				
Airport access mode choice	Business Count (% within airport access mode choice)	Private Count (% within airport access mode choice)	Tourism Count (% within airport access mode choice)	Total Count (% within airport access mode choice)
Taxi	308 (57.4%)	189 (35.2%)	40 (7.4%)	537 (100%)
Car (parked)	34 (59.6%)	17 (29.8%)	6 (10.5%)	57 (100%)
Car (dropped off by someone)	325 (40.7%)	406 (50.8%)	68 (8.5%)	799 (100%)
PT or combination	35 (42.7%)	38 (46.3%)	9 (11.0%)	82 (100%)
Travel purpose by airport access mode cross-tabulation: χ^2 (6, N = 1475) = 43.055[a], p-value <.0001, a: 1 cell (8.3%) has an expected count of less than 5. The minimum expected count is 4.75.				
Travel frequency	Business Count (% within travel frequency)	Private Count (% within travel frequency)	Tourism Count (% within travel frequency)	Total Count (% within travel frequency)
1–3 per month	339 (69.2%)	130 (26.5%)	21 (4.3%)	490 (100%)
1 in 3 months	208 (48.3%)	188 (43.6%)	35 (8.1%)	431 (100%)
1–2 per year	137 (30.7%)	256 (57.4%)	53 (11.9%)	446 (100%)
less than once a year	11 (15.5%)	50 (70.4%)	10 (14.1%)	71 (100%)
first time	7 (20.6%)	25 (73.5%)	2 (5.9%)	33 (100%)
Travel purpose by travel frequency cross-tabulation: χ^2 (8, N = 1472) = 184.873[a], p-value <.0001, a: 1 cell (6.7%) has an expected count of less than 5. The minimum expected count is 2.79.				
Travel group size	Business Count (% within group size)	Private Count (% within group size)	Tourism Count (% within group size)	Total Count (% within group size)
1	451 (48.8%)	425 (46%)	48 (5.2%)	924 (100%)
2	151 (40.7%)	165 (44.5%)	55 (14.8%)	371 (100%)

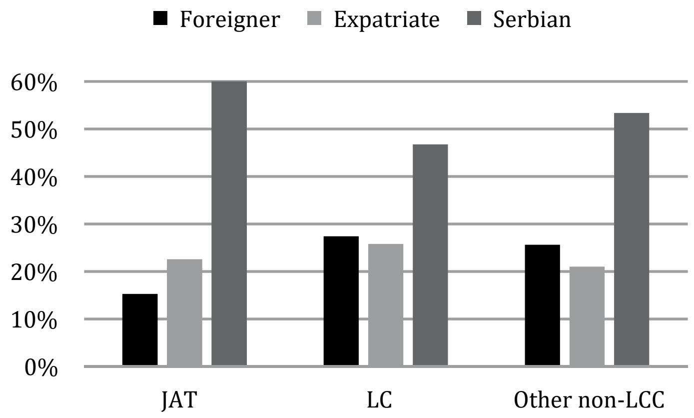
3	49 (55.1%)	33 (37.1%)	7 (7.9%)	89 (100%)
4+	51 (56%)	27 (29.7%)	13 (14.3%)	91 (100%)
Travel purpose by group size cross-tabulation: χ^2 (6, N = 1475) = 46.010[a], p-value <.0001, a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 7.42.				
Citizenship	Business Count (% within citizenship)	Private Count (% within citizenship)	Tourism Count (% within citizenship)	Total Count (% within citizenship)
Foreigner	220 (66.3%)	92 (27.7%)	20 (6.0%)	332 (100%)
Expatriate	49 (15.3%)	257 (80.3%)	14 (4.4%)	320 (100%)
Serbian	433 (52.6%)	301 (36.6%)	89 (10.8%)	823 (100%)
Travel purpose by citizenship cross-tabulation: χ^2 (4, N = 1475) = 238.988[a], p-value <.0001 a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 26.68.				

Source: authors.

Related to airline choice, the entrance of LCCs into the market changed the distribution of passengers. Starting from the modest number of operations in 2007, LCCs largely expanded their operations in 2010. In 2017 LCCs reached a share of approximately 20% of passengers in this market. Figure 9 presents cross-tabulation of airline choice by travel purpose and citizenship. Age structure has also been changed, and the increase is observed in the segments of young passengers (26–35) and passengers older than 65 years, while the 46–55 years segment recorded the largest decrease.

Figure 9. Airline choice by a) travel purpose and b) citizenship, from 2010 survey



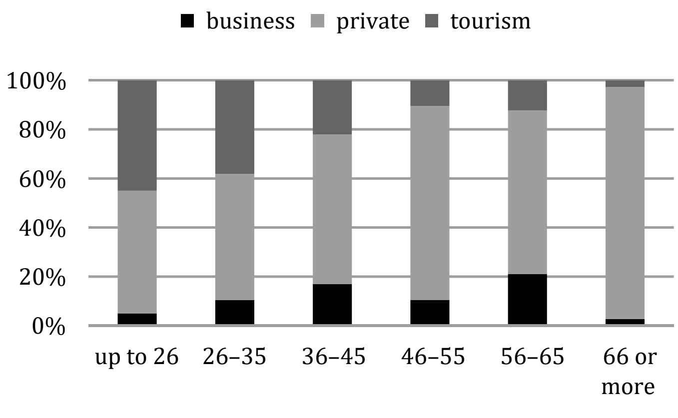


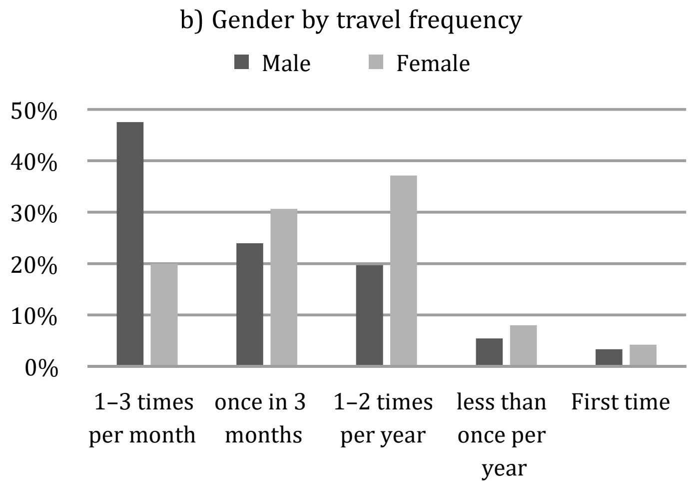
Source: authors.

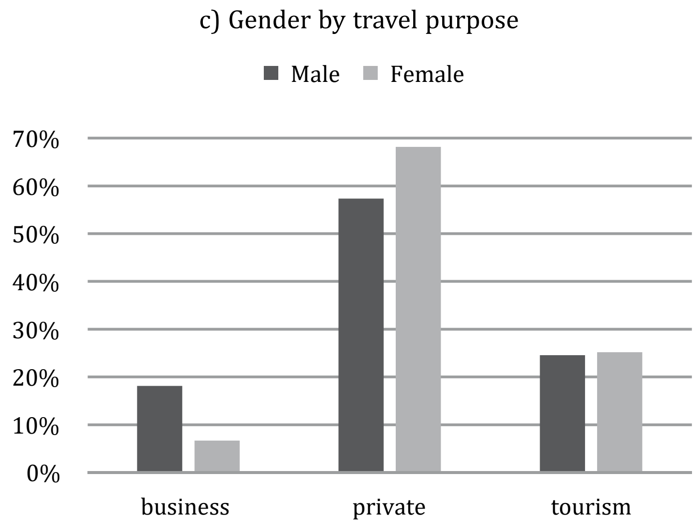
The last part of the in-depth analysis of the Serbian market's air passenger attitudes and behaviors during the 2007–2019 period is related to the data obtained from the survey conducted in 2017 at the Niš Airport. This airport is a regional one, intended mostly for LCCs, which led to the creation of different passenger profiles compared to the Belgrade Airport. From the total of 502 responses, the following results are selected. The largest share in all age categories related to travel purposes was private, followed by tourism which was almost equal to private purpose share among passengers up to 26 years of age (Figure 10a). Traveling for tourism decreased with age, while most passengers traveling for business were in the 36–45 and 56–65 age groups. A lower share of business passengers is expected due to the dominance of LCC flights at the Niš Airport.

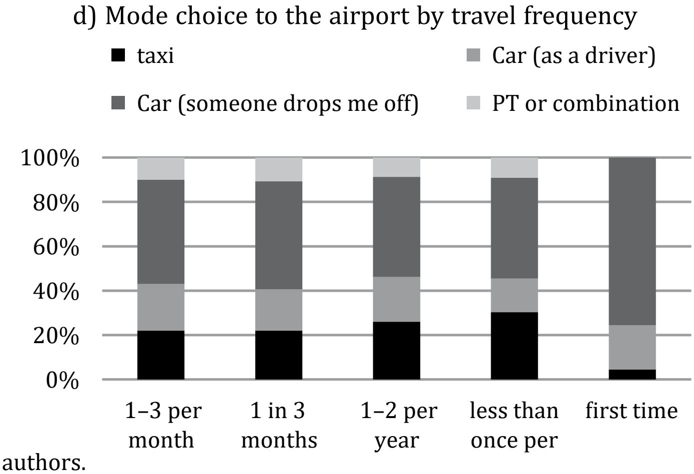
Figure 10. Selected results from the 2017 survey

a) Travel purpose by age group




b) Gender by travel frequency
Male
Female
50%
40%
30%
20%
10%
0%
1–3 times per month
once in 3 months
1–2 times per year
less than once per year
First time


c) Gender by travel purpose
Male
Female
70%
60%
50%
40%
30%
20%
10%
0%
business
private
tourism



Source: authors.

Regarding gender distribution, men were still traveling for business more than women, but the difference in shares was significantly lower than in surveys from previously observed periods, pointing to an increasing number of female business travelers (Figure 10b). There is also a notable increase in the shares of both genders, traveling for private and tourism, which was caused by both cheaper air tickets and the growth of personal income.

When it comes to the choice of mode of transport to the airport, the number of passengers who parked their car at the airport parking increased, due to lower prices of parking at the Niš airport. Below in Table 4, consistently with Tables 2 and 3, one can find the same selected cross-tabulations. All a result, the differences among the categories are statistically significant at the level of risk lower than 5%.

Table 4. Cross-tabulation of selected categories by travel purpose, in the 2017 survey (Niš Airport)

	Travel purpose			
Airport access mode choice	Business Count (% within Airport access mode choice)	Private Count (% within Airport access mode choice)	Tourism Count (% within Airport access mode choice)	Total Count (% within Airport access mode choice)
Taxi	9 (8%)	67 (59.8%)	36 (32.1%)	112 (100%)
Car (parked)	4 (8.9%)	30 (66.7%)	11 (24.4%)	45 (100%)
Car (dropped-off by someone)	30 (12%)	171 (68.7%)	48 (19.3%)	249 (100%)
PT or combination	17 (17.7%)	49 (51%)	30 (31.3%)	96 (100%)

Travel purpose by Airport access mode cross-tabulation: χ^2 (6, N = 502) = 15.250[a], p-value = .018, a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 5.38.				
Travel frequency	Business Count (% within travel frequency)	Private Count (% within travel frequency)	Tourism Count (% within travel frequency)	Total Count (% within travel frequency)
1–3 per month	20 (20%)	60 (60%)	20 (20%)	100 (100%)
1 in 3 months	22 (11.8%)	131 (70.1%)	34 (18.1%)	187 (100%)
1–2 per year	8 (7.7%)	55 (52.9%)	41 (39.4%)	104 (100%)
less than once a year	5 (7.6%)	46 (69.7%)	15 (22.7%)	66 (100%)
first time	5 (11.1%)	25 (55.6%)	15 (33.3%)	45 (100%)
Travel purpose by travel frequency cross-tabulation: χ^2 (8, N = 502) = 26.824[a], p-value = .001, a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 5.38.				
Travel group size	Business Count (% within group size)	Private Count (% within group size)	Tourism Count (% within group size)	Total Count (% within group size)
1	36 (15.5%)	164 (70.7%)	32 (13.8%)	232 (100%)
2	15 (8.5%)	107 (60.5%)	55 (31.3%)	177 (100%)
3	4 (8.3%)	27 (56.3%)	17 (35.4%)	48 (100%)
4+	5 (11.1%)	19 (42.2%)	21 (46.7%)	45 (100%)
Travel purpose by group size cross-tabulation: χ^2 (6, N = 502) = 35.483[a], p-value <.0001, a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 5.38.				
Citizenship	Business Count (% within citizenship)	Private Count (% within citizenship)	Tourism Count (% within citizenship)	Total Count (% within citizenship)
Foreigner	6 (9.2%)	42 (64.6%)	17 (26.2%)	65 (100%)
Expatriate	10 (14.1%)	57 (80.3%)	4 (5.6%)	71 (100%)
Serbian	44 (12%)	218 (59.6%)	104 (28.4%)	366 (100%)
Travel purpose by citizenship cross-tabulation: χ^2 (4, N = 502) = 17.183[a], p-value = .002 a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 7.77.				

Source: authors.

The LCCs induced new travels, by younger and older passengers, for private or tourist purposes. Additionally, the LCCs offered routes that track migratory patterns, which substantially influenced the increase in the number of people aged 65+ who visited members of their family. On the other hand, the population aged 35–45 years belongs to employers, which do not use LCCs for their business travels. Regarding travel purposes, it can be observed that the share of business travel was reduced, and that can be explained by the increase in private and tourist travel induced by the lower ticket prices offered by LCCs.

The penetration of LCCs into the Serbian air travel market has generated a completely new segment of passengers who would not have used air transport otherwise. The segments of the passengers of both traditional and LCC airlines were obtained using two-cluster analysis techniques (Kuljanin, Kalić 2015). Within LCC four segments were derived: in two of them, expatriates accounted for more than 50% of passengers, 33% were mainly passengers from Serbia, and 25% were foreigners. Concerning traditional carriers, two segments were obtained and the purpose of the journey appeared to be a main segmentation variable.

3.3. Serbian Air Transport Market during the COVID-19 Pandemic Period (2020–2022)

After years of record traffic growth, with the outbreak of the COVID-19 pandemic in 2020, global air transport faced the sharpest and most sustained fall in demand. Passenger traffic was almost stopped, with the exception of passengers who were abroad and who needed to return home. New rules were established for air travel. Many countries decided to close their borders and limit the movement of people. Moreover, new measures were introduced (e.g., PCR tests, vaccination, COVID certificates) aimed at preventing the spreading of the disease.

In circumstances like this, travel demand in the Serbian market recorded a sharp fall (Table 5; Kalić *et al*. 2022). In the second half of 2022, air traffic started to recover, resulting in an increase in the number of flights and in the number of passengers. Air Serbia changed its ownership structure, with the state's share increasing from 51% to 82% in late 2022.

Table 5. The number of passengers served by airports in Serbia

Year	Airport Nikola Tesla	Airport Niš	Serbian market (total)	Percentage of change compared to 2019
2019	6,159,000	422,255	6,581,255	
2020	1,904,025	154,233	2,058,258	-69%
2021	3,286,295	146,296	3,432,591	-52%
2022	5,611,920	389,022	6,000,942	-9%

Source: authors.

3.4. Serbian Air Transport Market in the Post-COVID-19 Period (2023–2024)

The period following the lifting of all the restrictions related to COVID 19, has been characterized by an extremely large expansion of the air network. Serbian airports are offering a large number of new routes, which has resulted in a significant increase in the number of passengers. Serbian air transport achieved many records in 2023. Namely, Air Serbia increased the number of passengers from 2.78 in 2019 to 4.19 million in 2023. Moreover, this number has continued to increase, recording the highest number of passengers in the first quarter of 2024 (17% YoY). Air Serbia changed its ownership structure once again, becoming fully state-owned in November 2023.

Considering the airports in Serbia, it should be noted that Airport Nikola Tesla recorded the highest number of passengers ever in 2023, 7.95 million (29% increase compared to 2019). Additionally, Airport Niš served 448 thousand passengers in 2023, exceeding the number of passengers in 2019 (442 thousand).

3.5. Future Serbian Air Transport Market (2025 and 2035): An Assessment

The same uncertainty that exists in the global air transport market has also been observed in the Serbian market. Due to the forecasting of future demand generally being very challenging, a Delphi survey among air transport experts and researchers was conducted during the COVID-19 pandemic. At about the same time, in April and May 2021, an online survey for air travelers was conducted for the purpose of SYN+AIR project (Kukić *et al*. 2021; Colovic *et al*. 2022; Babić *et al*. 2024) and selected answers from Serbian residents were used to support some projections accepted or rejected by the experts in the Delphi study.

3.5.1. Delphi Survey

The Delphi method is a group process involving the interaction between the researchers and a group of identified experts in a specified area, usually through a series of questionnaires. It represents an effective tool for achieving consensus when there is uncertain information or a lack of empirical evidence. The Delphi survey was performed in two rounds, during

March and April 2021. Due to the great uncertainty caused by the COVID-19 pandemic, two time horizons, 2025 and 2035, were observed (Kukić *et al*. 2021).

A questionnaire for the first round consisted of 20 projections for 2025, grouped in five categories: (1) air traffic volume factors, (2) business travel, (3) leisure travel, (4) passenger segments, and (5) new procedures and services in air transport (mainly caused by the COVID-19 pandemic); and 20 projections for the 2035 time horizon grouped as (1) automation and new procedures, (2) passenger characteristics, and (3) changes in passenger behavior (Kukić *et al*. 2021).

The response rate was 85.7%: 14 experts were invited by e-mail, but 12 agreed and all of them participated in both rounds. The panel group consisted of five academic researchers, seven air transport experts from industry, and one manager from a tourist agency, which provided a wide variety of different perspectives. Concerning a response scale, a four-point Likert scale was used (1 – "Don't believe it will happen" to 4 – "It will very likely happen"). An even number scale was chosen in order to avoid a neutral level of agreement. As a consensus, we defined a predetermined percentage of 75% participant agreement, where ratings 3 and 4 were counted as agree, while ratings 1 and 2 were counted as disagree.

The survey was administered online, and the participants responded to the questionnaire sent by e-mail. The possibility for comments and suggestions was provided at the end of each part of the questionnaire. Detailed results of the first round, as well as the comments, were sent to the participants. In total, 18 of 40 projections were accepted and those will be briefly presented below, through possible scenarios for 2025 and 2035 developed from the Delphi projections that reached consensus.

3.5.2. SYN+AIR Survey (Conducted in 2021)

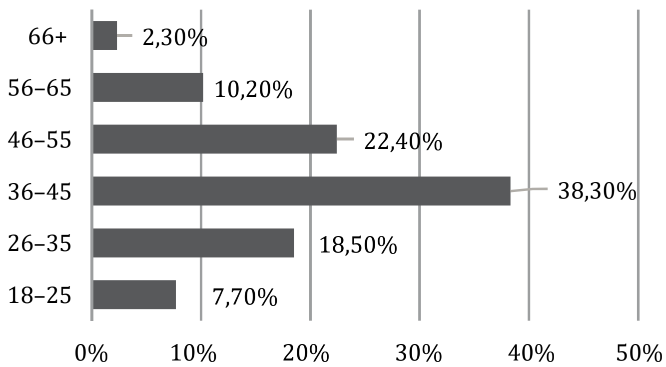
As has already been mentioned, the survey was conducted online due to the COVID-19 restrictions. The questionnaire consisted of three parts: Mobility Profile, Travel Preferences in 3 different hypothetical scenarios, and Sociodemographic Profile (Kukić *et al*. 2021; Colovic *et al*. 2022; Babić *et al*. 2024).

The results are quite interesting, but they should not be compared with the results of previous surveys conducted face-to-face at airports in Serbia, regarding to plane travel. The SYN+AIR survey was based on a stated preference questionnaire with mostly hypothetical questions and respondents answered as potential passengers referring to their common behavior when traveling by plane.

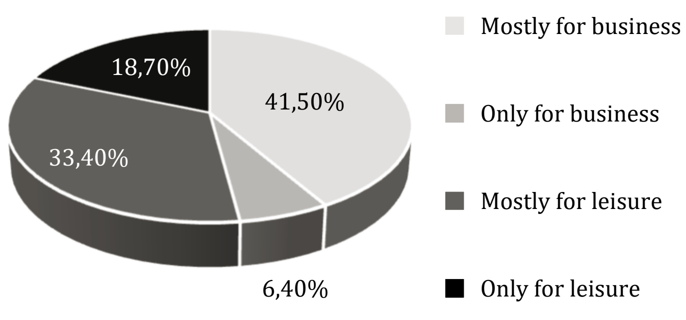
A total of 562 respondents from Serbia filled out the questionnaire, of which 66% were male, and 33.4% were female respondents. The percentage of respondents who often travelled by plane (in regular conditions, without COVID-19) was 43.6%, while 30.4% of respondents travelled rarely, 15.5% frequently, and 10.5% of respondents rarely travelled by plane. The sample distribution regarding age and the most common purpose of travel by air are presented in Figure 11. Regarding employment status, 86.8% of respondents were employed, 4.6% were students, 3.9% were retired, 1.6% were unemployed, and 3% other.

Figure 11. Age and travel purpose distribution in a sample from Serbia in survey from 2021

Age distribution



The most common travel purpose



Source: authors.

3.5.3. The Future of the Serbian Air Transport Market Supported by the Surveys

Based on the projections that reached consensus (Kukić *et al*. 2021), one scenario that stands out is "Return to Travel", for the time horizon of 2025. Despite the uncertainty related to the air travel future, four out of six projections that reached consensus for 2025 were optimistic. Due to the long period of the COVID-19 lockdown and various measures that reduced economic activity and increase the number of unemployed in Serbia, it is expected that in 2025 the average household spending will be reduced. Thus, experts assume that the number of passengers without personal income (students, housewives, etc.) will decrease (the first non-optimistic projection). In addition, the air ticket price is expected to be higher compared to 2019, due to higher fuel prices and higher airline costs (the second non-optimistic projection).

Regardless of the expected higher air fares, participants anticipate that after the period of pandemic lockdown, leisure and visiting friends and relatives (VFR) travels will increase and passengers will start to plan their trips enthusiastically. In order to make the trip easier and more acceptable, policy and bilateral agreements between Serbia and other countries will be signed by 2025. That will lead to an increase in the number of passengers at airports in Serbia and ultimately to a total recovery of the air transport market in Serbia and a return to pre-COVID-19 levels. In 2025 business air travel will persist despite IT technology innovations (people have experience using online meeting platforms). Experts believe that the business air traveler segment in Serbia will decrease by 20%. Generally, the scenario developed for 2025 is optimistic, which is a consequence of the long lockdown during the COVID-19 period and people's strong desire to travel.

Passenger profiles were also created, in addition to the developed scenarios. The 2025 time horizon is rather close and significant changes in passenger profiles are not expected, but two new profiles can be recognized. The first are Cautious Passengers consisting of careful persons who will try to avoid potential threat of disease. After the COVID-19 pandemic, they will still be in fear of disease and they will travel by plane only if they have to, without joy. The second are Fearless Passengers who are so eager to travel that they will neglect potential risks.

Two scenarios have been developed for the 2035 time horizon. Common for both scenarios is the increase in automation and digitalization. In that sense, it is expected that new technologies in passenger process automation at airports will be implemented (fully automated check-in, pre-security, boarding, etc.). Air passengers in Serbia will show a good response to the digitalization. In 2035 young and middle-aged travelers will be "digital natives" while the majority of older travelers will use advanced telecommunication technologies and services at that time. Despite digitalization and automation, some passengers will require human assistance. Additionally, advanced information and communications technology will partly replace short-haul air travel for business trips. The first Open World scenario is rather optimistic. After the end of the COVID-19 pandemic, there will be no other new pandemic diseases and the economic situation in Serbia will be stable. This will be a period of constant GDP growth, which will lead to increase in the number of passengers in the air transport. A number of people will be employed by foreign companies, working online from Serbia, and they will have a salary significantly higher than average. These people will travel frequently by air, for leisure or VFR. A new passenger segment will appear, due to medical, health, and therapeutic tourism. Foreigners and expatriates from Serbia belong to this segment. They will come to Serbia in order to use dental services, cosmetic and plastic surgery, spa treatments, and physical therapy, which are significantly cheaper in Serbia. In the business air passenger segment, the share of females will be greater than in past decades. The results from surveys in Serbia show that females represent 30% of business travelers and this is expected to increase up to 50% in 2035, which can also be confirmed by the results from the SYN+AIR traveler survey in which female respondents represent 31.4% of business travelers. People who are middle-aged at this moment have a habit of traveling, so it is anticipated that the segment of older/retired people who travel by plane in 2035 will be larger.

The second scenario, the Prolonged Pandemic Tension scenario, is rather pessimistic. Globally, the economic situation will be unstable in 2035. New epidemics and pandemics can be expected in the period until 2035, so additional virus-related procedures will become part of the standard procedure at airports. Additional airport/airline charges will be introduced to cover, for example, different necessary medical tests. In 2035, passengers at airports will be separated into pandemic-safe and pandemic non-safe areas, based on traveling to countries that will require necessary documents for entry. Since the disease risks in some countries will be significantly higher than in others, it is necessary to separate the flow of passengers at the airport in order to prevent the uncontrolled spread of infectious diseases. Part of business class passengers of traditional airlines will use the “taxi-sharing” service offered by air-taxi companies with aircraft capacity of 15 seats (flying vehicles).

Three air passenger profiles follow from the corresponding scenarios for 2035. The first profile is the Digital Native Generation, which refers to persons who have grown up in the digital age, in close contact with computers, the Internet, mobile phones, and social media. These persons partially belong to the generations Z and Y (Millennials). In 2035 they will be between 26 and 45 years old. The second profile consists of ambitious, open-minded, educated upper middle-aged people, belonging to Generation X – Well Informed Positive Attitude Cosmopolitan. The third profile is the New Generation of Retired. Those are modest, traditional-values people who like to travel, connected to Baby Boomers.

One of the projections that was rejected by 83% of the Delphi panelists was that passengers in Serbia would be more environmentally conscious and would choose environmentally responsible airlines. The panelists share the opinions provided in the answers from respondents in the traveler surveys (Table 6). The question related to printing the boarding pass when traveling, clearly shows that at the moment when the survey was conducted (April and May 2021), environmental awareness of Serbian passengers was not at the level of EU passengers (only 3.7% of respondents from Serbia chose option "No, I don't want to waste paper", compared to, for example, 30% of respondents from Spain, while 44% of respondents from Serbia answered "Yes, it's more convenient when in the paper", compared to 14% of respondents from Spain with the same answer).

A higher percentage (24.4%) of passengers who travel often or frequently prefer to have a boarding pass on their phone compared to passengers who travel rarely (11.7%), while it is the opposite for passengers who prefer to have a boarding card on paper (52.6% of passengers who travel rarely vs. 37.3% of passengers who travel often or frequently, Table 5). Similarly, different habits related to printing boarding cards are observed for different age groups (with the age limit set to 45 years). All results and differences among the categories are statistically significant at the level of risk lower than 5%.

Table 6:
Cross-tabulation of habits related to printing boarding cards by age groups and frequency of travel by plane

	Do you usually print your boarding pass when traveling?				
	No, I don't want to waste paper	No, I prefer to have my boarding pass on my phone	Yes, in case my phone stops working, to be sure that I have my boarding pass available	Yes, it's more convenient when on paper	Total Observed (percentage within row category)
Age: 45 or below	4.1%	24.3%	35.4%	36.2%	362 (100%)
Age: 46 or more	3.0%	10.0%	30.0%	57.0%	200 (100%)
Printing boarding pass by Age groups cross-tabulation: χ^2 (3, N = 562) = 28.083[a], p-value <.0001, a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 7.47.					
Travel frequency: Rarely or almost never	3.9%	11.7%	31.7%	52.6%	230 (100%)
Travel frequency: Frequently or often	3.6%	24.4%	34.6%	37.3%	332 (100%)
Printing boarding pass by Frequency of travel cross-tabulation: χ^2 (3, N = 562) = 18.960[a], p-value <.0001, a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 8.59.					

Source: authors.

Another projection rejected by 83% of panelists was that high-speed rail and new highways in Serbia would take over a significant proportion of air passengers. This can be confirmed by the high percentage of respondents in the traveler survey who chose the plane in the “train or plane” hypothetical scenario (Table 7).

Respondents were asked to choose between a plane (the door-to-door travel time is 4 hours) and a high-speed train (the door-to-door travel time is 6 hours) in the case of business travel. The plane was the choice for 71%

of respondents and regarding the reason for that choice 47.5% stated time, followed by 35.2% of respondents whose reason for the choice was comfort. Almost 80% of female respondents chose the plane, while at the same time a slightly lower percentage of male respondents made that choice (66.8%).

Regarding the reasons for plane/train choice, in Table 7 one can see that 5.3% of female and 2.2% of male respondents do not like to travel by plane, while only 0.5% of female and 4.6% of male respondents do not like to travel by train. Also, 56.4% of female respondents and 42.9% of males made choices based on time as a factor. When it comes to younger and older respondents, it is visible that older respondents value comfort as a factor in making decisions, while younger more value time as a factor. All results, differences among the categories are statistically significant at the level of risk lower than 5%.

Table 7:
Cross-tabulation of reasons for plane/train choice by gender and age groups

	Why did you make a choice between plane/train?						
	Comfort	I do not like to travel by plane	I do not like to travel by train	Other	Reliability	Time	Total Observed (percentage within row category)
female	31.9%	5.3%	0.5%	4.3%	1.6%	56.4%	188 (100%)
male	37.2%	2.2%	4.6%	8.4%	4.9%	42.9%	371 (100%)
Reasons for Plane/Train choice by Gender cross-tabulation: χ^2 (5, N = 559) = 22.559[a], p-value <.0001, a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 8.66.							
Age: 45 or below	31.2%	3.1%	2.5%	8.1%	4.7%	50.4%	230 (100%)
Age: 46 or more	43.0%	3.5%	4.5%	5.0%	2.0%	42.0%	332 (100%)
Reasons for Plane/Train choice by Age groups cross-tabulation: χ^2 (5, N = 562) = 12.934[a], p-value = .024, a: 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 6.44.							

Source: authors.

4. CONCLUSION

This paper presents the air passenger segment evolution in Serbia from 2000 to 2035. The observed period is divided into five time horizons: two in the past, one current, and two in the future. In the past horizons, the evolution of air passenger segments is considered based on the results of surveys conducted from 2000 to 2017. The first period (2000–2006) refers to a non-liberalized market, and the general segmentation of passengers is confirmed, i.e., the leisure and business segments are distinguished. The emergence of LCCs in the 2007–2017 period induced air travel demand, and generated a passenger segment that started to used air transport instead of other modes. Different segments can be observed in LCCs (expatriates were the most common users) and traditional airlines (two segments were obtained based on the trip purpose).

The current period (2023–2024) induced new travels since the supply in the Serbian market has significantly improved. This supply is mostly driven by Air Serbia's capacity increase, as well as by Wizz Air's presence in the Serbian market.

The future scenarios and passenger profiles are based on the Delphi method. Due to the great uncertainty caused by the COVID-19 pandemic, two time horizons 2025 and 2035 were observed. In the 2025 Return to Travel scenario and two profiles Cautious passengers and Fearless passengers are singled out. In 2035 two scenarios (Open World and Prolonged Pandemic Tension) and three profiles (Digital Native Generation, Well Informed Positive Attitude Cosmopolitan, and New Generation of Retired) are defined. The obtained results could be generalized and applied to South East European (SEE) countries since countries in this region had similar socioeconomic features in the past. Additionally, the Digital Native Generation is a profile that is expected to be present in the global air travel market.

This research provides valuable information for product planning, for both airports and airlines. Thus, it helps them to offer appropriate services in the highly competitive air transport market. The proposed approach could be applied to other countries in SEE, which is a possible direction for future research. Additionally, the proposed methodology could be extended to advanced statistical techniques, in order to provide deeper insight into passenger behavior and profiles, pointing out more sophisticated differences and similarities among countries.

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Article history:
Received: 12. 3. 2024.
Accepted: 20. 5. 2024.