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Air Passenger Services to Remote Regions of Russia

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Abstract: The paper describes current trends in air passenger transport services to remote areas of Russia. The study provides an overview of the current state of passenger air transportation, airport infrastructure in remote areas and also airline companies' demand for airplanes. The authors argue that subsidies to the industry are needed to reduce the outflow of people from remote areas.

Key words: Regional air services · Air transport policy · Remote areas · Remote regions · Russia · Transport integrity · Air service subsidy programs · Russian aircraft fleet · Public funding of air services

INTRODUCTION

Russian passenger air transportation can be described as in a state of decline. According to official statistics, air transportation carried 56.9 million people in 2010. This is similar to passenger volume at the very beginning of 1970s (air transport in the Russian Soviet Federative Socialistic Republic carried 45 million people in 1970 and 62 million in 1975). In terms of passenger traffic, Russia lags behind not only itself 40 years ago, but also behind countries with much smaller territorial expanses; the volume of air traffic is 19.6 times lower than in the United States, 3.2 times lower than in China, 2.2 times lower than in Germany and 1.8 times lower than in France.

There have been significant changes in the economy of air transportation. In 1991, the number of international air travelers reached 3.6 million and the number of domestic passengers reached 82.4 million. By 2010, international passenger traffic rose to 27.7 million (an increase by a factor of 7.7) and domestic traffic fell to 29.2 million (by a factor of 2.8). The proportion of local flights (flights within a single region) is extremely low. In 2010, local airlines transported 1.6 million passengers, which is less than 3% of overall Russian passenger traffic.

It is also worth pointing out that in the later period of the USSR, a significant portion of air transportation served the North, Siberia and the Far East. In 1987, air transport in these areas carried nearly 32 million passengers, accounting for 27% of the total number of passengers in the USSR [9-11].

In the course of market reforms in Russia during the past 20 years, the national airlines that suffered the most were those offering domestic flights and of those, the local (regional) airlines. The lack of regular, guaranteed and affordable air travel impedes the development of the vast Russian territories and does not allow them to integrate existing resources into the economy, increase workforce mobility, solve pressing social and economic problems in remote areas, or increase their attractiveness to investors.

Literature Overview and Assessment of the Problem: Existing governmental support programs for air transport in the world economy are justified by the need to provide lifeline transport services to separate remote areas. Criteria for government support in the U.S., Canada and the EU use fairly broad interpretations of the terms "remote regions" and "lifeline services" [1-3, 6].

The set of criteria for defining "regional air transport," "remoteness of territories" and "lifeline transportation services" should be defined on a regulatory level [1, 4]. Performance criteria for allocation of resources should also be clearly defined.

Comparative Analysis of Remote Air Transportation Subsidy Programs in the U.S. and the EU: Comparative analysis of remote air transport subsidy programs from separate studies conducted in the USA (the Essential Air Service program, hereinafter EAS) [1, 2, 5] and in the EU (the system of Public Service Obligations, hereinafter

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PSO) [5, 7], compares the costs of air carriers participating in subsidy programs for remote air carriers in the U.S. and the EU with similar cost carriers who did not participate in these programs. It was found that the EU's remote air traffic subsidy program (PSO) had an ambivalent effect on the profitability of carriers, due to higher operating expenses. In the United States (in the EAS program), this effect was not detected [5]. One reason is that administration of the U.S. program is more centralized (as opposed to a decentralized program in the EU), providing flexibility to turn subsidized flights into commercial ones (that is, non-subsidized) in seasonal periods when the profitability of air transportation increases.

Socio-economic Impact of Remote Air Transportation Subsidy Program: Evaluation of the socio-economic impact of the regional air transportation subsidy program was conducted in the EU in 2006-2007. More specifically, the evaluation addressed the impact of fare reductions on air travel in the PSO program. Results showed that even if there is a significant increase in budget subsidies provided to airlines in compensation for losses, the overall socio-economic impact is positive [1, 2].

Methodology for Determining Fares for Remote Air Services: Optimal air fares set prices at a level where passengers pay the marginal cost of air travel [1]. Part of the cost of air travel is fixed. Basing air fares on marginal costs would result in losses, as fares do not offset marginal costs. Setting fares equal to average costs offsets all expenses, but some of the passengers who are willing to pay the marginal cost of tickets cannot afford to fly at that rate. Moreover, in areas with low levels of passenger traffic, setting fares equal to average costs would cause fares to exceed marginal costs significantly. In such cases, fare subsidies can be used to reduce fares and compensate for government obligations.

Air fares are set at the highest level with special discounts for certain types of flights. The pricing regime (fare determination) is extremely important. If prices are set at the highest level, then increases in passenger traffic during peak periods can cause problems; these can result from undervaluation of maximum air fare, leading to additional demand for air travel during those periods.

On the other hand, maximum rates may be too high during downturns in passenger traffic. With "maximum average" fares, the air carrier can cope with peak-period pricing more easily. This can be achieved through separate costing for different types of air transportation [1-3].

Assessment of the Current Level of Air Services to Remote Areas: In 2012, there were 1,337 routes within the territory of Russia, with service from 62 Russian companies. In 1990, there were just under 5,000 air routes in the Russian Soviet Federative Socialistic Republic. In 1992, Aeroflot, the largest carrier, had 1,263 regional routes, with a total of 14,400 flights per year. In mid-2012, there were only 19 routes, with 138 flights per year.

In 2011, airlines carried 31 million passengers on domestic routes. Of these, local regional airlines had only 4.5 million passengers, which is less than 15%. Canada provides an example to illuminate these figures; the population of Canada is 34.2 million people (4.2 times less than the population of Russia), but 16.5 people million fly on regional routes annually (3.7 times more traffic than in Russia).

Over the past 20 years, the number of airports declined by more than 4 times, from 1,302 to 315. Moreover, the core network that supports all air traffic in Russia has only 115 airports, of which less than ten meet international requirements. By comparison, there are 14,500 airports in the U.S., 5,000 in Germany and 3,300 in Brazil.

As of mid-2012, there were 340 regional passenger aircraft in the active fleet, of which 244 are domestically produced and 96 produced abroad. The domestic fleet has 60 Tu-134 aircraft (discontinued in 1989), 90 An-24 aircraft (produced until 1979) and 55 Yak-40 aircraft (produced until 1981). There are only fifteen modern aircraft (such as the An-140 turboprop and An-148 jet). According to Rosstat (Russian Federal Statistics Service), in early 2010, 6.2% of the total fleet of civil aircraft had been in service less than 5 years, while 7.2% had been in service for over 5 years and less than 15 years, 58.2% over 15 years and less 30 years and 27.6% had been in operation for more than 30 years. Moreover, the percentage of aircraft in the upper age group is growing rapidly. From 2000 to 2010, the percentage of aircraft that had been in service between 15 and 30 years increased by 1.4 times and those in service more than 30 years increased by a factor of 16.2 [8]. In reality, this means the collapse of the investment process in air transportation and the degradation of its resource base.

There are economic reasons for the reduction in local passenger air traffic. In 2012, the average cost of a direct roundtrip flight was about RUB 23 thousand (about $730), which is comparable to the monthly income of people in many remote areas. There are also regional routes with fares up to RUB 22-23 thousand (about $700-730) for a one-way ticket.

Economic reasons such as inability of the general population to pay fares and consequent low profitability of regional air transportation, cause problems on a national scale. Lack of reliable and regular air transportation is pulling apart the economic and social environment of the country and creating vast holes of inaccessible territory.

Policy Objectives to Improve Air Services to Remote Areas: It is fairly obvious that the problems of regional air transportation cannot be solved by individual market participants. The solution is to develop a single economic and financial mechanism to balance the interests of people living in remote areas, the federal and regional authorities and the Russian regional air carriers. The financial responsibility of the parties, the necessary amount of federal and regional government subsidies and the prospective areas and volume of investments in fleet and aviation infrastructure within this mechanism must be defined.

It should be noted that the federal government has already taken first steps to develop regional aviation. Subsides in the amount of RUB 2 billion (about $64 million) from the federal budget have been planned for lease payments on new aircraft. This will allow the purchase of 117 aircraft by 2014. Airfare subsidies from the budget are another area of federal support for regional transportation. Currently, the annual expense of this support is estimated at RUB 1 billion (about $32 million).

The regions of the Russian Federation play a less active role in addressing the problems of regional air carriers. At the present time, regional aviation in 30 Russian constituent territories is in urgent need of development. Of these regions, only nine reported participating in co-financing of regional carriers and of these nine only four actually subsidized transportation. The total planned contribution from regional budgets to local air transportation for 2012 is RUB 1.6 billion (about $51 million). Regional contributions to local airlines are directed primarily to subsidizing expenses of air carriers.

Apparently, the regions will need to take a more active role in the airline industry in the near future. First and foremost, this means expanding regional subsidies for passenger air travel. The Ministry of Transportation of the Russian Federation expects that government subsidies will reach 50% of the cost of airfare on local airlines in the near future and that these subsidies will be evenly distributed between federal and regional budgets.

Investment in local aviation development programs is another important area of financial activity. In the U.S., for example, 32 states and 153 population centers are financially involved in such programs. Russian regions can invest in building airports and technological infrastructure for air services.

The decline in passenger traffic comes amid a rapid degradation of the fleet and of regional aviation infrastructure. Problems with the fleet are no less urgent.

The first steps to develop regional aviation have already been taken by the federal government. The federal budget will subsidize lease payments for the purchase of new aircraft. Constituent territories of the Russian Federation have taken a less active role in addressing regional aviation issues. Regional participation in developing local airlines consists primarily of subsidies toward the expenses of air carriers.

The Regions Need to Increase Participation in Subsidization of Air Travel: The national public program – the Transport strategy (hereinafter "the Strategy") [12], approved in 2008, provides substantial growth of passenger air services turnover. It is provided the quantity of air passengers' increase by a factor of 6.8 (from 35.1 to 240 million passengers) and air passenger turnover increase by a factor of 6.9 (from 85.8 to 593 billion passengers per kilometer) up to 2030.

The national transport policy priorities lie within in-Russian air services improvement, including socially significant ones. Air services to remote areas that do not have all-the-year-round transport alternative and also basic air services providing transport integrity of the country concern the last. These air routes connect the Moscow Region with the western area of Russia (the Kaliningrad region), with Russian regions in the Far North, Siberia and in the Far East. A turnover increase of air services to remote areas (7.6%) has to surpass a turnover increase of the overseas air services, provided by the Russian carriers (6.9%) by 2020.

According to the Transport strategy, the quantity of the operating airports will extend to 357 by 2020 and the airport network to be consists of more than 500 airports by 2030. The regional air transport infrastructure development should become a priority objective to develop the national airport network.

Table 1: Regional Aircraft Production

Period	Quantity
2008	11
2009	14
2010	34
2011	35
2008-2011	24
2008-2011 (the Strategy estimates)	114

Sources: [12], [13].

Table 2: Building of Regional Airport Infrastructure in Russia

Airport infrastructure	2000-2005	2006	2007	2008	2009
Runways (thousand square meters)	353	345	71	33	183
Air terminals (passengers per hour)	411	1,100	3,650	n/a	5,350

Sources: [14], [15].

The aircraft fleet will also extend to 630-820 major aircraft fleet by 2020 and to 530-680 regional aircraft fleet.

Let us estimate main indicators of the Transport strategy objectives. According to the Strategy, 2500 aircraft to be produced up to 2030, that is 114 aircraft per year on the average. The last figures should be compared to the quantity of aircraft already produced since 2008 (Table 1).

It should be noted that the Transport strategy estimates of the Regional aircraft production exceeds the actual regional aircraft production by the factor of 4.6 in 2008-2011.

The other main indicator of the Strategy demonstrates building of regional airport infrastructure (Table 2).

As can be seen, building of airport infrastructure should remain within the top level priority objectives of the air transport policy.

CONCLUSION

The development of regional air transportation would solve a number of serious social and economic problems in remote Russian regions. For regions and their member municipalities, air travel will promote integrated territorial development and use of economic, recreational and tourism potential. Regional airlines will have stable markets for transport services and receive guaranteed paid orders. Populations living in remote areas will also benefit. Local communities without stable and regular connections to the "mainland" experience a sense of alienation and hopelessness, neglect and public indifference to their fate. This psychological state defines the character of remote settlements and creates a strong desire among inhabits to leave those areas. Regular and affordable air travel can reverse this destructive trend and improve labor mobility and movement of personnel.

However, no single participant in the huge potential air services market is able to solve its problems. Thus far, federal and regional authorities do not see a need to interfere in the activities of business entities or provide financial support to private airlines. Due to lack of financial resources, airlines themselves are not able to upgrade the fleet or invest in airport infrastructure. Regional populations generally have low incomes and therefore are not able to create mass demand for air carrier services.

Public-private partnerships offer a way out of this situation to consolidate fragmented funding, link the interests of the airline industry with the needs of remote areas and combine economic efficiency with social value.

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