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OVERVIEW OF LOW-COST CARRIERS IN RUSSIA AND POST-SOVIET STATES

Tamilla Curtis and Dawna L. Rhoades

The low-cost carrier's model made remarkable gains across the globe in the prior decade, although growth was uneven domestically and intraregionally. Within this region, there are significant differences in overall country size, the size of the domestic aviation market, and the number of carriers serving the market. The largest and most developed market is in Russia, but rest of the region also experienced growth in economy airlines' activity as they discovered the power of the model to expand aviation access and lower costs. The success of low-cost carriers, however, has been halting and hampered by government decisions on foreign investment, ownership, and leasing. Still, some carriers have been able to grow and achieve gains over rivals. The recent Russian-Ukrainian war has further complicated the situation.

11.1 INTRODUCTION

One of the most significant strategic disruptions in the history of aviation was the development of low-cost carriers (LCCs). While the US carrier Southwest is often named as the first true LCC, it was modeled on an intrastate airline (Pacific Southwest Airlines) that began operation in California in 1949. As an intrastate carrier, Pacific Southwest could operate as a "discount carrier" free of the Federal regulation that applied to interstate carriers at that time. Southwest Airlines was also established prior to deregulation (1971), serving Texas; however, it only began to demonstrate the true potential of the LCC model after the US became the first country to deregulate its airline industry in 1978.

There is a reason for the link between LCC growth and deregulation; the existence of the LCC model depends on a regulatory framework that allows carriers to decide on their price, route structure, and level of service offerings.

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Without the freedom to charge for ancillary services (baggage, assigned seating, and food), lease and service aircraft from low, often foreign providers, and utilize low-cost personnel strategies, LCCs cannot gain true cost advantages (Efthymoiu & Papatheodorou, 2018; Gross et al., 2013). Thus, domestic deregulation was the original "disruption" which allowed firms to explore the low-cost model. Without these market freedoms, new LCCs will struggle, and ultimately fail, to compete with the larger, more established full-service network carriers (FSNCs).

Globally, from 2010 to 2020, LCCs doubled their fleet and seat capacity with more than 100 such carriers operating by the end of the decade. They also accounted for one-third of the intraregional seat capacity before the beginning of the Global Pandemic. Expansion was most rapid in the Asia Pacific region which accounted for 35% of the global low-cost airlines' seats in 2018. There continued to be significant variation in the LCC penetration rate within this region, but the overall rate of penetration (8% in 2018) was approaching the global average. LCCs accounted for 36% of the seats in Latin America with penetration rates highest in Brazil, Colombia, and Mexico. The LCC penetration rate for routes to/from Latin America was 23%, the highest of any region, although this number is somewhat distorted by the US-Mexico market.

The Middle East posted gains in LCC growth and penetration, but remained behind the global intraregional growth rate. Africa also lagged in LCC growth and penetration with LCCs accounting for only 12% of seat capacity in 2018. On the other hand, LCCs posted their highest penetration rate in Europe where they accounted for 41% of the seats in 2018. Further, low-cost airlines accounted for 9% of the seats to/from Europe in 2018. Meanwhile, LCC growth in the mature North American market posted the slowest global rate of growth with budget barriers accounting for 32% of the seat capacity within North America. One bright spot for North America was that the LCC capacity to/from the country grew at a much faster rate, from 6% to 18% in 2018 (Centre for Aviation, 2019).

In short, the LCC model made remarkable gains in the prior decade, although growth was uneven domestically and intraregionally. Entering the newest decade of the twenty-first century, it is clear that airline business models may change and evolve but the industry remains cyclical and is one of the first indicators and victims of economic turmoil. The global pandemic has already severely impacted the industry and resulted in airline failures. As in any industry, the incidence of failure tends to be higher among smaller, newer players. Thus, LCCs in most markets already tend to have a relatively short lifespan (Button, 2012).

11.2 LOW-COST CARRIER MODEL

Not all disruptions are innovative. According to Christensen et al. (2015), there are several circumstances that qualify as disruptive innovation in an industry. First, it is "a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent businesses. . .targeting those overlooked segments. . .by delivering more suitable functionality frequently at a lower price" (p. 46). Second, disruption originates at the low end of the market or in

new, unserved markets. Disrupters that start (and succeed) at the low end then may migrate to the mainstream. Third, disruptive innovations do not "catch on" with mainstream customers until their quality rises to some level considered acceptable to these customers. Finally, disruptors build business modes different from incumbents. Based on the first three points, the LCC model would appear to be a disruptive innovation, but it is less clear that it meets the last point.

The LCC model has been defined by a series of features that enable these airlines to significantly lower costs and offer lower fares than FSNCs: high aircraft utilization, fast aircraft turnaround times, point-to-point route structures (avoiding the expense of hubbing), use of secondary airports, single class cabin configuration, high density seating that may include unreserved seating, simple fare structures that often include very low promotional fares, fare structures with few to no frills, an emphasis on ancillary fees (additional charges for baggage, assigned seating, etc.), personnel policies that keep wages low and workload high, and emphasis on direct ticket sales, preferably via the internet (Bezruchonak, 2018; Gross et al., 2013).

Many of these features were pioneered by Southwest, perfected by Ryanair, and copied around the world. FSNCs have attempted to establish airline-within-an-airline models in an effort to compete with the rising number of LCCs, but these FSNC efforts have generally failed due to brand confusion, union opposition, and internal managerial issues. Other actions taken by FSNC include cost-cutting efforts such as more outsourcing, increasing emphasis on ancillary fees and service menu selection, and offering better services/products. Meanwhile, the LCC model itself has been shifting (Morrell, 2005). Klophaus et al. (2012) reported three different types of LCCs: pure LCCs, hybrid carriers dominated by budget characteristics, and hybrid carriers dominated by full-service characteristics. Pure LCCs still made up the bulk of the low-cost airlines studied, but the growing number of other LCC types has raised the question of how viable the pure model is for long-term success. Button (2012) has argued that the LCC model was an attempt to circumvent the historically low operating margins in the airline industry, but that their success is transitory in open-air transport markets.

Whether the pure low-cost model is sustainable, studies have shown that they do lower fares and expand access to air travel (Dresner et al., 1996; Hallowell & Heskett, 1993). For these reasons, the LCC model is likely to penetrate any market with sufficient openness to allow success and be attractive to governments seeking to broaden access to travel. Russian aviation market was able to grow without the presence of LCCs, but the collapse of two of its LCCs in 2011, SkyExpress and Avianova, prompted President of the Russian Federation Mr. Putin and Aeroflot General Director Mr. Savelyev to meet and discuss the development of the LCC sector in Russia (President of Russia, News, 2012). Russia is not alone in its interest in LCC growth as most of the post-Soviet countries have been exploring the concept in their markets to meet demands for affordable air transport (Pyadushkin, 2021).

11.3 THE POST-SOVIET STATES

Table 11.1 lists the countries in the region. Several factors are worth noting. First, there is a very significant difference in geographic size of the largest country, Russia, and the smallest country, Armenia. This size difference is reflective of the overall size of the population and, hence, the domestic market for aviation. In some of these countries, there is virtually no domestic market and the full focus of its aviation system is international traffic and connection. These country differences are mirrored in the national air transportation systems of the post-Soviet states (Table 11.2). Russia, the largest country, hosts the most registered air carriers with 32 while Turkmenistan only has one registered carrier. The largest prepandemic air traffic market was in Russia and Lithuania had the smallest number of annual passengers.

With these issues in mind, we will discuss the Russian market first, exploring early development and the current state of LCCs, then examine the main regions and countries of the post-Soviet world.

Table 11.1. The Characteristics of Post-Soviet States.

Country	Area* Sq. km	Population* × 1,000 July-21	HDI** 2019	Tourism*** × 1,000,000 2019
Eastern Europe				
Russia	17,098,242	142,320	0.824	$17,670
Ukraine	603,550	43,745	0.779	$2,592
Belarus	207,600	9,441	0.823	$1,290
Moldova	33,851	3,323	0.75	$532
Baltic States				
Lithuania	65,300	2,711	0.882	
Latvia	64,589	1,862	0.866	
Estonia	45,228	1,220	0.892	$2,315
Central Asia				
Uzbekistan	447,400	30,842	0.72	$1,679
Kazakhstan	2,724,900	19,245	0.825	$2,922
Tajikistan	143,100	8,990	0.668	$179
Kyrgyzstan	199,951	6,018	0.697	$708
Turkmenistan	488,100	5,579	0.715	
Southern Caucasus				
Azerbaijan	86,600	10,282	0.756	$2,004
Georgia	69,700	4,933	0.812	$3,551
Armenia	29,743	3,011	0.776	$1,553

Source: *World Factbook (2021). **Human Development Report (2020), UN Development Program. ***International Tourism, receipts (2021), The World Bank.

Table 11.2. National Air Transport System of Post-Soviet States.

	Registered Air Carriers 2020	Registered Aircraft 2020	Paved Airports 2017	Annual PAX Traffic (Thousands) 2018	Annual Freight Traffic (mt-km) (Millions) 2018
Eastern Europe					
Russia	32	958	594	99,327	6,810
Ukraine	14	126	108	7,854	75.26
Belarus	2	30	33	2,760	1.9
Moldova	6	21	5	1,135	0.64
Baltic States					
Lithuania	3	50	22	26	n/a
Latvia	3	53	18	4,058	4.01
Estonia	3	14	13	31	n/a
Central Asia					
Uzbekistan	2	34	33	3,056	89.43
Kazakhstan	12	84	63	7,143	50.22
Tajikistan	2	6	17	492	2.34
Kyrgyzstan	5	17	18	709	n/a
Turkmenistan	1	27	21	2,457	16.92
Southern Caucasus					
Azerbaijan	42	44	30	2,279	44.09
Georgia	4	12	18	516	0.75
Armenia	3	5	10	n/a	n/a

Source: World Factbook (2021).

11.4 RUSSIA AND THE EARLY DEVELOPMENT OF LOW-COST CARRIERS

Aviation played an important role throughout the Soviet era, indeed Aeroflot, established in 1923, is one of the world's oldest airlines (Aeroflot, 2021). Air transport provided significant benefits in many parts of Russia in the absence of developed road and railway networks, which could have been potential competitors to airlines (Rizika, 1953). In fact, some of the destinations in the northern and eastern region of the country were only accessible by air, especially during the winter months. The Soviet aerospace sector was highly centralized and government owned and controlled. There was a heavy emphasis on military production (Howie, 1995). During these years, Russian aerospace manufacturing included Ilyushin, Tupolev, Yakovlev, and several smaller corporations. With its modern, technologically advanced fleet of aircraft, Aeroflot was a symbol of the Soviet Union's as a superpower (Howie, 1995).

The dissolution of the USSR in 1991 led to the subsequent formation of newly independent countries, privatization of former governmental sectors, and introduction of the market economy. The Russian aviation industry was severely impacted, including the manufacturing industry of civil aircraft. For example,

some Russian aircraft manufacturers found themselves in new foreign territories, such as Antonov in Ukraine or the Sukhoi assembly plant in Georgia. Due to the USSR breakup, the production of Russian civil aircraft came to a halt and, unfortunately, could never recover again. This was in contrast to the military aircraft production, which includes a portfolio of competitive fighter jets such as MiG-29, Su-27, and recently manufactured regional jet Sukhoi Superjet 100.

While the knowledge and expertise did not go away with the USSR reorganization, the newly appointed leadership did not provide critical organizational support and direction for the Russian civil aircraft industry to succeed. The lack of production of the next generation of Russian-made aircraft to replace the aging fleet combined with reductions of import duties on foreign-built aircraft for Russian carriers allowed Western companies such as Boeing and Airbus to enter and dominate the Russian aviation market. Western airplanes were technologically advanced, fuel-efficient, and had outstanding safety records. Moreover, support services such as inspections and maintenance packages were offered to maintain foreign aircraft. Prior to 1991, the Aeroflot fleet consisted entirely of Russian-built aircraft. In November 2021, the Aeroflot Group had only one IL-96-300 and 62 Sukhoi RRJ-95B manufactured in Russia. The rest of its 301 airplanes were foreign aircraft, including Airbus, Boeing, De Haviland of Canada, and Viking DHC (Center for Aviation, 2021).

As a result of new regulations, in 1991, Aeroflot broke into many smaller size-independent companies. According to Howie (1995), there were 320 operators at the end of 1993. This created serious problems. Decentralized management presented a challenge to provide comprehensive oversight of the Russian civil aviation industry. Communication between hundreds of companies was also a problem (Howie, 1995). Lack of financial resources in smaller-sized carriers negatively affected aircraft maintenance, repairs, and compliance with the required standards. As such, flight safety became a major concern. Moreover, Aeroflot was once also responsible for maintaining Russian airports and the centralized air-traffic control system. The breakup of 1991 created uncertainty over who would take over those responsibilities (Howie, 1995). Due to all of these challenges, there was a need for consolidation of civil aviation in Russia. What was left of Aeroflot became Aeroflot Russian International Airlines and the Aeroflot Group was formed with several wholly owned subsidiaries. The Aeroflot Group was privatized with the current ownership as of November 2021 consisting of 57.3% of the Russian State and 40.7% of institutional investors (Cirium Database, 2021).

There were two early attempts to introduce the LCC concept in Russia. The first was made by *Centre-Avia Airlines* in 2002. This Russian charter carrier which operated between 2000 and 2010 introduced subsidized no frills services on one of its routes, Moscow-Belgorod, operating a Yak-42. This new strategy was supported by the Belgorod regional administration, but was unable to compete with the train service operating on the same route. After only three months, the Belgorod administration stopped its subsidy and Centre-Avia discontinued service on this route (Centre for Aviation, 2020).

Another early attempt was made by *S7 Airlines* (JSC Siberian Airlines), the second-largest carrier at that time. Like Centre-Avia, S7 introduced a one-way economy fare of $10 to $40 on a route between Moscow and Nizhny Novgorod. The Moscow Domodedovo airport helped S7 Airlines reduce its turnaround time and unit costs for its Tupolev-154. Despite a promising start, this attempt was also unsuccessful because of the high operating costs of the TU-154, two-cabin configuration and low passenger traffic on the route. Tupolev-154 was a Russian three-engine medium-range narrow-body aircraft designed in the 1960s by Tupolev JSC, a Russian aerospace and defense company. TU-154 was considered to be one of the fastest civil aircraft in the market and could operate off unpaved and gravel runways in remote locations where other aircraft could not land (Davis, 2016). Unfortunately, the forty-year-old design could not compete with newer aircraft in operational efficiency or meet international standards, including noise requirements. Its price doubled to about $3 million by August 1994 and like most Tupolev aircraft it had a poor safety record (Howie, 1995). Aeroflot retired all of its TU-154 in 2010.

Moreover, the Russian Ministry of Defense grounded all TU-154 in 2016 until the end of the investigation of the December 2016 crash into the Black Sea, killing 92 people on board. Previous crashes included Polish Air Force TU-154 in April 2010, killing 96 people, including Polish President Lech Kaczynski (Davis, 2016). The last Russian airline to operate TU-154 retired them in 2020.

SkyExpress is considered the first true LCC in Russia. It operated between 2007 and 2011 from Vnukovo International Airport in Moscow. SkyExpress was originally owned by a consortium of investors, including Altima Partners LLP, the European Bank of Reconstruction and Development, Sloane Robinsons LLP, and Mr. Abramovich, a Russian businessman and politician (Curtis & Rhoades, 2015). In 2009, Vnukovo International Airport acquired approximately 75% of the airline shares, leaving 25% with other shareholders (Centre for Aviation, 2009).

SkyExpress operated domestic routes in Russia and charter flights during the summer to Finland, Greece, Hungary, Spain, Turkey, and other international destinations. It was one of the first airlines to conduct transactions using debit or credit cards on its website or via call centers. It offered snacks and beverages onboard for purchase and had an overall strategy similar to other European LCC (Centre for Aviation, 2020). In 2011, SkyExpress had a fleet of three A319 and four B737, but a debt of RUB 207 million (€5 million) prompted the carrier to suspend operations in April 2011 (Centre for Aviation, 2011a). The airline ceased its operations in October 2011 and its assets were transferred to Russian Kuban Airlines.

Avianova followed in the footsteps of SkyExpress to introduce the LCC model operating from Sheremetyevo International Airport in Moscow, the home base of Russian flag carrier Aeroflot in 2009. Avianova shares were controlled by the Russian investment group A1 (51%) and US investment group IndiGo Partners which also managed Wizz Air, a Hungarian-based LCC. Avianova strategy was similar to Ryanair – ultra-low fares and revenues generated mostly from ancillary services. Avianova operated a fleet of six A320 on 19 domestic routes and one

route in Ukraine. It quickly became the second-largest carrier operating out of Sheremetyevo Airport and was the 11th largest airline by passenger traffic by 2011 (Centre for Aviation, 2011a). Avianova carried more passengers with higher average load factors than its predecessor SkyExpress. Unfortunately, disagreements between the Russian and US shareholders arose. Avianova executives were accused of failing to comply with Russian law and managerial incompetence. They were locked out of their offices and the company ceased its operations in October 2011, only 20 days before SkyExpress stopped its operations (Centre for Aviation, 2011b).

11.5 RUSSIAN AVIATION MARKET

The bankruptcy of these two promising low-cost start-up airlines in Russia in 2011 raised questions about the difficulties of the Russian aviation market, including the issue of foreign investment and ownership. The following challenges were present:

- *Territory Size.* Russia, as the largest country in the world by area, had significant distances between populated cities which is somewhat unusual for a domestic LCC. For example, one of the longest domestic direct flights is approximately 8.5 hours between Petropavlovsk-Kamchatsky and Moscow (Hardiman, 2020).
- *Railway System.* The developed railway system offers seamless connections between most cities on short and long routes.
- *Secondary Airports.* There were fewer secondary airports in operation in Russia. However, Russian aviation authorities and the government have discussed the concept of LCC minimalized airports to support further LCCs development (Centre for Aviation, 2020).
- *Foreign Aircraft Taxes.* There were high import tariffs (VAT) on foreign aircraft which limited carriers to Russian-made aircraft with higher operating costs. To avoid these tariffs, Avianova reduced the A320 180 seat configuration by 21 seats (Centre for Aviation, 2011b). In January 2020, this provision was lifted with zero VAT on importing civil aircraft and its parts (Centre for Aviation, 2019; Russia Business Today, 2019).
- *Competition.* The governmentally sponsored FSNC, Aeroflot, was able to compete on a cost basis with the LCC cost structure. For example, the average age of Aeroflot fleet was 5.6 years in 2020, making it one of the youngest in the world and bringing an advantage in fuel efficiency and maintenance cost (Aeroflot Annual Report, 2020). Additionally, the average labor cost per employee was low compared to European standards (Centre for Aviation, 2014). Aeroflot's strategies include operating a highly unified, young, and modern fleet, increasing the average seat capacity and improving the overall efficiency of aircraft. Aeroflot is planning to replace its A330s with newer, lighter, and more fuel-efficient A350s.

- *Electronic commerce.* E-ticketing and online bank card payments were not available during the development of early LCCs. The market also did not have travel sites for airfare comparisons and booking such as the newly established Aviasales (O'Neill, 2021).

Maltsev and Matveeva (2017) summarized the LCC challenges in the Russian market. First, legislation did not allow nonrefundable fares or charges for onboard meals and luggage, features common for global LCCs that reduce overall costs. Second, the available infrastructure did not include a number of secondary airports with lower tariffs or allow for fast turnaround time. Third, the purchase of newer, more efficient, lower cost foreign airplanes required significant financial commitments that LCCs lacked. Despite these limitations, other factors such as geographic size, low-income population, and poor road and rail networks coverage made the need for the LCC sector apparent. LCCs in Russia have provided better connectivity, increased flight frequencies, and growing airline competition.

Following discussions with Russian leaders, Mr. Savelyev proposed establishing Aeroflot's LCC subsidiary to supplement its multibranding strategy and fill the void left by the 2011 collapses of SkyExpress and Avianova. However, amendments to the current Air legislation of the Russian Federation Code were needed first. Aeroflot's General Director proposed the following changes:

(1) Article 108, which prohibits the sale of nonrefundable tickets. Airlines should be able to sell nonrefundable tickets.
(2) Article 56, which will allow hiring nonresident pilots. Due to the pilots' shortage, airlines were pressured to raise pilots' wages.

Other proposed changes to the federal Air Code included: allowing payment for luggage, over 10 kg, no required in-flight meals provision, and LCC permission to use secondary airports with lower taxes. It was noted that several airports around Moscow could potentially be used as LCC hubs. While the Russian parliament approved some of the proposed changes, others, such as foreign pilots hiring, were in question because of the effect on the labor market (President of Russia, News, 2012).

11.6 PRESENT-DAY RUSSIAN LCC MARKET

Dobrolet, meaning "Good flight" in Russian, was an LCC under the Aeroflot wing. It started operation in June 2014 from Moscow Sheremetyevo Airport to 11 domestic routes, including the Crimean Peninsula, flying the B737 (Dobrolet, 2021). Fares were discounted at 20–40% on those routes. Dobrolet supported Aeroflot's multibranding strategy as an LCC since Aeroflot already had subsidiaries in regional and leisure market segments. As such, Dobrolet added the price-sensitive segment to Aeroflot's Group portfolio (Centre for Aviation, 2014).

Dobrolet employed a number of LCC characteristics including collecting revenues from ancillary services such as seats allocation, priority boardings, checked luggage, onboard meals, nonrefundable fares, etc. Their routes were planned to cover the top 150 destinations by passenger traffic including longer distances due to the large Russian territory. However, only a few months after starting its operations, the European Union blacklisted Dobrolet due to the Crimean territory dispute between Russia and Ukraine and the shootdown of Malaysia Airlines MH17 in eastern Ukraine in July 2014. As a result, European companies terminated all agreements with Dobrolet including the cancellation of Irish leasing agreements, Lufthansa Technik maintenance agreements, and European aeronautical information (Ahlgren, 2021). Dobrlet was grounded in August 2014 and liquidated in July 2015.

This was not the first time that an airline has fallen victim to instability of Ukraine. In 2015, Ukrainian authorities temporarily closed airspace to all Russian civilian and military airplanes (BBC News, 2015). Donavia, Aeroflot's former subsidiary, was sanctioned by Ukrainian authorities and as a result, ceased its operations in 2016. Wizz Air Ukraine, a Ukrainian LCC, also stopped its operations in 2015 due in part to instability in eastern Ukraine. Georgian LLC Flyvista discontinued its services in May 2015, also due to the Ukrainian crisis and traffic loss.

The 2014 tension between Russia and Ukraine continues to this day. On April 13, 2021, the US Federal Aviation Administration issued a new airspace warning within 100 nm in the eastern region of the Russian-Ukrainian border due to increased tensions. As such, the US aircraft as well as Canadian operators are prohibited from entering this region. The Canadian authorities also advised greater caution operating in Ukrainian airspace, including Kyiv, Odesa, and Lviv (Federal Aviation Administration, 2021).

In 2013, the Aeroflot Group included four airlines: Aeroflot in the Business segment; Aeroflot, Rossiya, and Aurora in the Regional segment; Aeroflot in the Leisure segment; and Dobrolet in the Price Sensitive segment. However, Dobrolet was grounded in 2014, and in December 2020, 51% of Aurora's stake was sold by Aeroflot to the company's second shareholder JSC Sakhalin Region Development Corporation (Aeroflot Annual Report, 2020). Table 11.3 presents the multibranding Aeroflot's portfolio in 2020 including the three remaining airlines – Aeroflot, Rossia, and Pobeda.

Despite many challenges, some LCC success has been seen in Russia. *Pobeda*, meaning "Victory" in Russian, is the newest LCC to be established by Aeroflot (September 2014). Presently, it is the only Russian LCC operating in the Russian market. The carrier selected Moscow Vnukovo Airport as its hub. In May 2021, it added Moscow Sheremetyevo airport, stating that it will achieve a 25-min turnaround time (Centre for Aviation, 2021b). The airline took over aircraft from Dobrolet and quickly became one of the fastest-growing carriers in Russia. It has an extensive network stretching from Siberia in the Far East to the Norwegian border in the west. Its network includes international destinations in Italy and Turkey (Centre for Aviation, 2020).

Table 11.3. Aeroflot Group's Multi-Brand Strategy.

	Aeroflot	Pobeda	Rossiya
Positioning	Premium product	Low-cost product	Regional, social, and charter products
Type of flights	Scheduled flights	Scheduled flights	Scheduled and charter flights
Business model	Hub model	Height resource efficiency and maximization of flight hours	Flights from Saint Petersburg and Moscow (connectivity with Aeroflot's network)
	High frequency of flights	Point-to-point flights	Socially important routes to the Russian Far East
	Best-in-class service		Charter flight in partnership with a tour operator
Aircraft fleet	Narrow-body	Narrow-body	Narrow-body
	Wide-body		Wide-body
Base airport	Moscow (Sheremetyevo)	Moscow (Vnukovo)	Moscow (Sheremetyevo)
		Airports in Russia's region	Saint Petersburg (Pulkovo)
Travel classes	Economy	Economy	Economy
	Comfort (Premium Economy) Business		Business
Target customer group	Business	Leisure	Visiting friends and relatives
	Visiting friends and relatives	Visiting friends and relatives	Leisure, including package tours
	Leisure	Business	Business
Stage length	Total 2.7000 km	Total: 1.8000 km	Total: 2.8000 km
	Russia: 1.9000 km	Russia: 2.2000 km	Russia: 2.4000 km
	Other countries: 3.5000 km	Other countries: 1.7000 km	Other countries: 3.4000 km
Passenger traffic, 2019	37.2 million	10.3 million	11.6 million
Share of international passengers	52%	23%	41%

Source: Aeroflot Annual Report (2020).

In 2018 Pobeda held a world record for the average daily flight time on the 737 with a maximum of 16.5 hours a day. Pobeda recovered quickly after COVID-19 travel restrictions were lifted and has become the primary growth engine for the Aeroflot Group. The airline reported a profit in 2020 while the Aeroflot Group overall reported an operating loss of $1.7 billion (Pobeda, 2021). In 2021, Pobeda had 34 B-737-800 NG aircraft. In June 2021, Pobeda was ranked number three in passenger traffic in Russia after Aeroflot and S7 Airlines, carrying 1.4 million passengers. Globally, Pobeda operates to 126 destinations with an average load

Table 11.4. Russian LCC Characteristics.

	Pobeda 2014-Present	Dobrolet June–August 2014	Avianova 2009–2011	SkyExpress 2007–2011
Status	Active	Grounded	Grounded	Grounded
Main hub	Moscow Vnukovo Airport	Moscow Sheremetyevo Airport	Moscow Sheremetyevo Airport	Moscow Vnukovo Airport
Ownership/ Investment	Aeroflot Group	Aeroflot Group	Alfa Group and Indigo Partners	25% Boris Abramovich 20% European Bank for Rec. Altima Partners LLP Sloane Robinson LLP
Code share partners	Aeroflot	Aeroflot	None	None
Destinations:				
Domestic	42	9	22	13
Europe	1			
Other	1			
Fleet in operation	38 B737	2 B737	5 A320-2	2 A319-1 2 B737-3 3 B737-5
Annual seats capacity (×1,000):				
2020	13,136	n/a	n/a	n/a
Estimated 2021	16,932	n/a	n/a	n/a
Annual traffic, pax (×1,000), 2020	9,090	66 (2014)	n/a	942
Load factor, 2020	91.60%	77.1% (2014)	n/a	80.1% (2011)
Total revenue	516M	63.6K	n/a	n/a

Source: Centre for Aviation Reports (2021a, 2021b) and Cirium (2021).

factor of between 94 and 96%. The company has 177 employees per million customers, which makes it highly efficient by world standards. In June 2021, Pobeda started to use Aeroflot's code share services for domestic flights out of Sheremetyevo airport including Aeroflot baggage allowances and bonus programs.

Following the recovery of the aviation market with the decline in COVID-19, in June 2021, Russia became Europe's largest aviation market by passenger seats with a domestic market exceeding its pre-COVID level. Pobeda is the fastest recovering airline with passenger traffic up to 33% from April 2019 and a June 2021 average load factor of 94%. In July 2021, Pobeda operated 38 Boeing 737s and has another 19 Boeing 737s on orders. Prior to the Ukrainian conflict, the airline flew to 42 domestic destinations, 10 European and one in the Middle East.

Melekhina and Pozdeeva (2020) conducted a comparative analysis involving Pobeda, Southwest Airlines, and Ryanair covering the period from 2015 to 2019. Pobeda had a 38.66% average revenue increase compared to Southwest Airlines with 3.14% and Ryanair with 6.77%. In 2019, Pobeda carried 10 million

Table 11.5. Foreign LCCs Serving the Russian Market, 2020.

Airline	Country of Origin
Air Arabia	United Arab Emirates
Air Busan	South Korea
Chengdu Airlines	China
Eastar Jet	South Korea
Flydubai	United Arab Emirates
Jeju Airlines	South Korea
Lucky Air Co. Ltd.	China
Pegasus Airlines	Turkey
SunExpress	Turkey
T'way Air	South Korea
TUI fly Belgium	Germany
Vueling Airlines	Spain
Wizz Air	Hungary
Wizz Air UK	Hungary

Source: Centre for Aviation (2020). The number of airlines fluctuates due to the COVID pandemic.

passengers on 30 aircraft with 94% seat occupancy. Southwest Airlines carried 134 million passengers on 742 aircraft with 82% seat occupancy. Ryanair carried 142 million passengers on 439 aircraft with 95% seat occupancy. Clearly, Southwest and Ryanair started from a much larger base of operations; however, Pobeda has shown impressive progress since its start.

The rapid success of Pobeda has had a clear demonstration effect, and other LCC entered the Russian market. S7 Airlines, the second largest carrier in Russia, announced that it will launch its own LCC subsidiary, Citrus, in July 2022. The onset of the Ukraine War, however, stymied that plan. Red Wings also announced plans to shift its operations to an LCC model (Pyadushkin, 2021). Table 11.4 presents the characteristics of Russian LCCs, including one active and three grounded airlines.

In addition to the discussed LCCs, other Russian smaller sized carriers such as regional, commuter, and charter airlines serve the Russian market. These include Azimuth (regional/commuter), Smartavia, formerly known as Nordavia (regional/commuter), UTair Express, part of the UTair Group (regional), Red Wings (scheduled/charter), Nordwind Airlines (charter), and Pegas Fly (Ikar Airlines) (scheduled/charter), etc.

Former Soviet States LCCs and foreign LCCs also have a presence in the Russian market. In 2020, there were 14 foreign LCCs (Table 11.5) (Centre for Aviation, 2020). This represents a significant increase from six LCCs in 2003 and 11 in 2013 (Curtis & Rhoades, 2015). However, due to the market fluctuation, some of those airlines either ceased their operations or stopped operating on the

Russian market, including easyJet (UK), NIKI (Australia), Germanwings (Germany), Air One (Italy), Blu-Express (Italy), and Norwegian (Norway). Ryanair has expressed an interest in serving the Russian market, bargaining for bilateral rights and lesser airline charges (Centre for Aviation, 2020).

Despite the recent influx of LCCs into Russia, the overall LCC penetration in the market remains very low compared to non LCC carriers. According to an analysis by Centre for Aviation (2020) of Russian LCC seats between 2010 and 2020, there were essentially no domestic LCC seats until 2015. By 2019, the number of domestic non-LCC seats was over 75 million, while domestic LCC seats were around 10 million. For the first half of 2020, the number of domestic non-LCC seats dropped to around 55 million, but the domestic LCC seats remained roughly the same. If this trend continued for the remainder of 2020 and into 2021, then it is a good indication of domestic demand for LCC services in Russia and may well encourage others to pursue this market segment.

With a rapid COVID-19 recovery, Russia became Europe's biggest aviation market by seats in June 2021 (Centre for Aviation, 2021b). However, the Russian LCC market remains undeveloped as compared to other parts of the world. Fifteen LCCs, including Pobeda, had only 13% domestic and 6.8% international seats in 2020 (Table 11.6).

COVID-19 changed the aviation market patterns by increasing domestic travel demand from visiting friends and relatives (VFR) travelers separated from their loved ones. While long-haul traffic and business travel are still recovering, short-haul and leisure traffic is growing. In Europe, most flights seem to be operated by LCCs (Centre for Aviation, 2020). While some airlines ceased their operations due to financial troubles caused by the pandemic, others have been able to pick up the opened network. As such, since April 2020, more new airlines have announced plans to launch operations compared to airlines that have ceased their operations. For example, in Europe, 18 new start-up airlines announced their plans to be established as compared to seven airlines that ceased operations (Centre for Aviation, 2021a). Among these start-ups are Norse Atlantic Airways, picking up Norwegian Air routes from Europe to the US, British Flyr, Icelandic

Table 11.6. Example of LCCs by Countries, January to August 2020.

	LCC Total	LLC Domestic and Subsidiaries	LCC Domestic % Seats	LCC International % Seats
Russian Federation	15	1	13.0	6.8
United States	22	5	34.8	18.2
United Kingdom	10	2	51.2	52.5
Australia	10	2	23.9	14.3
India	19	3	82.1	37.7
Mexico	16	4	70.9	33.4

Source: Centre for Aviation (2020).

PLAY picking up the bankrupt WOW air network, and Romanian/Moldova HiSky, all LCCs.

A favorable trend for LCC growth in Europe and VFR travel demand might foster future development of the LCC sector in Russia and post-Soviet States. However, new COVID restrictions such as extended procedures at airport adversely impact the traditional LCC model of rapid turnaround times. Nevertheless, other Russian airlines have started considering the LCC model. UTair Aviation, the number four carrier by passenger traffic in Russia, is planning to add LCC elements to its portfolio and has already started offering seat-only fares and no onboard catering. Smartavia, former Nordavia, has also suspended catering and offering all-economy class configuration, hand luggage only, and nonrefundable fares. Moreover, Uzbekistan Airways, the flag carrier of Uzbekistan, has plans to start a new LCC by the end of 2022 (Romakayeva, 2021).

11.7 THE POST-SOVIET STATES' LOW-COST CARRIERS

Between 2010 and 2021, only seven out of 16 LCCs in the former Soviet states listed by the Center for Aviation were active (Tables 11.7 and 11.8). Still, this indicates a significant increase from 2013 when there were only three active operators: Latvian airBaltic, WIZZ Air Ukraine, and Kyrgyzstan's Pegasus Asia (Curtis & Rhoades, 2015). Both WIZZ Air Ukraine and Kyrgyzstan's Pegasus Asia were grounded in 2015.

There are many reasons for the instability and grounding of airlines in the post-Soviet States, but two issues stand out. First, the civil aviation authorities of the European Union continue to impose sanctions against post-Soviet State airlines due to a lack of safety oversight by local aviation authorities. As of June 2021, the following airlines from three post-Soviet States countries continue to remain banned from operating within the EU, with the exception of wet-leased aircraft:

- Armenia: all six air carriers certified by the authorities.
- Kyrgyzstan: all 10 air carriers certified by the authorities, including LCC Air Manas.
- Moldova: eight air carriers certified by the authorities, including the newly established LCC HiSky. The exceptions are Air Moldova, Fly One, and Aerotranscargo (Europa Transport, 2021).

Second, the region, like Russia, continues to feel the effects of the Ukrainian situation. Given the ongoing and fluid nature of this conflict, the impact on airlines and air travel in the region is uncertain.

In June 2021, the US State Department suspended the 2019 US-Belarus bilateral air services agreement due to the Ryanair forced landing in Belorusian Minks National Airport in May 2021. The EU, the UK, and Canada also imposed sanctions on Belarusian companies and politicians, including Belavia

Belarusian Airlines (Unnikrishnan, 2021). In addition, Lithuania banned flights through Belarusian airspace.

With the negative effect of the COVID-19 pandemic on aviation, Ukrainian political instability, the ongoing dispute between Ukraine and Russia over Crimea and Donbas, and numerous sanctions for political and safety reasons, air transport in Russia and the post-Soviet states has faced a number of unprecedented challenges. However, some success stories do exist. The following section looks at various efforts in the post-Soviet region and will highlight some of these successes.

11.7.1 Eastern Europe

11.7.1.1 Ukraine

Wizz Air Ukraine (2008–2015) was a part of the Hungarian LCC Wizz Air and operated with two A320 across eight destinations in Ukraine and Europe. The airline operated from its Kyiv International airport hub and later added Donetsk International airport as a second base. However, Donetsk flights were stopped in 2014 due to instability in the region, local currency volatility, foreign currency exchange issues, and other operational issues. As a result, Wizz Air Ukraine stopped its operations in April 2015. The parent company, Wizz Air, took over some of the routes and two aircraft. Although there was a conversation to relaunch Wizz Air Ukraine again in 2019, the Wizz Air Group continues to operate only two subsidiaries Wizz Air and Wizz Air UK (Wizz Air Ukraine, 2021).

SkyUp started its operation in May 2018 out of Kyiv Boryspil International Airport to complement the Ukraine International Airlines network. The airline operates 13 B737 to 61 destinations: domestically (5), Europe (47), Asia Pacific (3), Middle East (2), and Africa (4). A new service to Saudi Arabia is slated for launch in August 2021 (SkyUp, 2021).

11.7.1.2 Moldova

HiSky is a brand of LCC that started operations in March 2021. The airline is based in Romania and has two air operator certificates. One is from Romania, awarded in Dec 2020, and another from the Republic of Moldova, awarded in January 2021. It operates two, soon to be three, A320 with one domestic route, two to Russia, and one to Turkey and Israel (HiSky Pofile, 2021). However, HiSky Moldova is listed on the EU banned airlines list for June 2021 (Europa Transport, 2021).

11.7.2 Baltic States

11.7.2.1 Latvia

airBaltic, the Latvian national carrier, is a hybrid LCC started in 1995 as a joint venture between Scandinavian Airlines SAS and the Latvian government. Prior to 2009, 47% of the airline were owned by SAS. Later, the Latvian government increased its ownership to 80%, while another 20% was owned by Danish Aircraft

Table 11.7. Post-Soviet States LCCs.

Country	LCC	Main Hub		Status
Eastern Europe				
Russia	Pobeda	Moscow Vnukovo Airport	01-Dec 14	Active
	Dobrolet	Moscow Sheremetyevo Airport	4-August-14	Grounded
	SkyExpress	Moscow Vnukovo Airport	29-October-11	Grounded
	Avianova	Moscow Sheremetyevo Airport	9-October-11	Grounded
Ukraine	SkyUp	Kyiv Boryspil International Airport	21-May-18	Active
	Wizz Air Ukraine	Kyiv Igor Sikorsky International Airport	20-April-15	Grounded
Moldova	HiSky	Chisinau International Airport	5-March-21	Active
Baltic States				
Latvia	airBaltic	Riga International Airport	28-August-95	Active
Lithuania	Star1	Vilnius International Airport	1-October-10	Grounded
Central Asia				
Kazakhstan	FlyArystan	Almaty International Airport	May-19	Active
Kyrgyzstan	Air Manas	Bishkek Manas International Airport	2006	Active
	Pegasus Asia	Bishkek Manas International Airport	September-15	Grounded
Southern Caucasus				
Azerbaijan	Buta Airways	Baku Heydar Aliyev International Airport	1-September-17	Active
	AZALJET	Baku Heydar Aliyev International Airport	31-August-17	Grounded
Georgia	Air Georgia	Kutaisi Airport	2021	Start-up
	Flyvista	Tbilisi International Airport	17-May-15	Grounded

Source: Center for Aviation, Data Center (2021).

Table 11.8. Active LLC.

Name		Main Hub	Country
Pobeda	1-December-14	Moscow Vnukovo Airport	Russian Federation
SkyUp	21-May-18	Kyiv Boryspil International Airport	Ukraine
HiSky	5-March-21	Chisinau International Airport	Moldova/ Romania
airBaltic	28-August-95	Riga International Airport	Latvia
FlyArystan	May-19	Almaty International Airport	Kazakhstan
Air Manas	2006	Bishkek Manas International Airport	Kyrgyzstan
Buta Airways	1-September-17	Baku Heydar Aliyev International Airport	Azerbaijan
Air Georgia (start-up)	2021	Kutaisi Airport	Georgia

Source: Centre for Aviation (2021).

Leasing 1 SIA. Following financial difficulties during COVID-19, the airline received €250 million from the Latvian government in May 2020, and government shares increased to 91% (airBalic, 2021). In addition to point-to-point destinations, the airline also employs a network strategy. airBaltic operates from the Latvian capital Riga, the Lithuanian capital Vilnius, and the Estonian capital Tallinn to 62 destinations in Europe, the Middle East, and one domestically. It has 25 A220 in service and another 23 on orders. In July 2021, airBaltic operated around 50% of its 2019 capacity with 60% load factor (Robins, 2021).

11.7.2.2 Lithuania

Star1 was a subsidiary of Lithuanian tour operator Star1 Holidays under JSC Star Team Group, based in Vilnius, the capital of Lithuania. The airline was established after the national Lithuanian carrier flyLAL stopped its operations in 2009 due to financial difficulties. Star1 operated scheduled and charter flights between 2009 and 2010 with one B737 to Europe, Egypt, and Turkey. In October 2010, Star1 airplane was seized by the lessor in Dublin due to the company's financial debt, which resulted in the airline's bankruptcy 2 weeks later (Baltic Times, 2010).

11.7.3 Central Asia

11.7.3.1 Kazakhstan

FlyArystan was established in May 2019 as a low-cost division of Air Astana, Kazakhstan's national airline which sought to expand its multibrand strategy. FlyArystan is using Air Astana's operating certificate. It is the first Kazakhstan LCC, supplementing the only other Central Asian LLC, Kyrgyzstan's Air Manas. Other LCCs present in this market are Russian Pobeda, Azerbaijanian Buta, and several foreign carriers. FlyArystan operates from its hub at Almaty International Airport with an A320. The airline uses an ancillary revenue strategy

Table 11.9. Post-Soviet States LCCs Characteristics.

	SkyUp	HiSky/HiSky Moldova	airBaltic	FlyArystan	Air Manas	Buta Airways
Started Operations	May-18	March-21	October-95	May-19	2015	September-17
City, Country	Kiev, Ukraine	lasi Romania/Moldova	Riga, Latvia	Almaty, Kazakhstan	Bishkek, Kyrgyzstan	Baku, Azerbaijan
Main hub	Kyiv Boryspil International Airport	lasi International Airport/ Chisinau International Airport	Riga International Airport	Almaty International Airport	Bishkek Manas International Airport	Baku Heydar Aliyev International Airport
Ownership/ Investment	Government	Privately owned	Latvian State 96.14% and Aircraft leasing 1 SIA 3.86%	Government Air Astana	51% Kyrgyz private investors and 49% AviaTrade Corp LP	GovernmentAzal Azerbaijan Airlines
Code share partners	None	None	Aegean Airlines, Aeroflot, Austrian Airlines, etc.	None	none	Turkish Airlines
Fleet in operation	2 B737-7 7 B737-8 4 B737-9ER	1 A319-1 1 A320-2	25 A220	8 A320	1 A220-3	7 E190
Annual seats capacity						
(×1,000) 2020	2,022	n/a	2,925	n/a	77	576
est. 2021	3,684	201	3,900	n/a	9	624
Annual traffic, pax (×1,000) 2020	1,237	n/a	1,340	1,500	272	n/a
Load Factor 2020	71.20%	n/a	51.60%	85%	72.70%	n/a
Revenue	202M	n/a	158M	n/a	152M	n/a

Source: Centre for Aviation Reports (2021a, 2021b) and Cirium (2021).

supported by recent changes in aviation rules, including new baggage charges (FlyArystan, 2021).

11.7.3.2 Kyrgyzstan

Pegasus Asia was a joint venture between Turkish low-cost Pegasus Airlines (49%) and Kyrgyz Air Manas. It operated between 2013 and 2015 using B737, and then [the] airline merged with Air Manas.

Air Manas started operations under the Pegasus Asia brand, but in 2015 it switched to the Air Manas brand name. Air Manas operates one A220 from Bishkek Manas International Airport. However, Air Manas was listed on the EU banned airlines list for June 2021 (Europa Transport, 2021).

11.7.4 Southern Caucasus

11.7.4.1 Azerbaijan

AZALJET was the low-cost subsidiary of Azerbaijan Airlines which operated between March 2016 and 2017 with its headquarters based in Baky. It offered services to 15 destinations in the Middle East and Europe operating Embraer-190. Although AZALJET utilized the LCC model, the airline offered three economy categories such as budget, discount, and comfort. The airline charged for check-in luggage and initially did not include free meals on board. However, in 2016 the airline started to provide complementary onboard hot meals and increased its free carry-on luggage from 8 kg (17lb) to 10 kg (22lb) (AZALJET, 2021).

Buta Airways was established in September 2017 as a replacement of AZALJET. It is 100% owned by AZAL Azerbaijan Airlines. It serves 16 nonstop destinations, including one domestic, 13 to Europe, and 2 to the Middle East (Buta, 2021).

11.7.4.2 Georgia

Flyvista was a Georgian LCC operated from Tbilisi International Airport. It was established in August 2014 in a partnership with the UAE-based charter carrier Aerovista. Flyvista operated a B737. The airline discontinued its services in May 2015 due to the lack of traffic on the Tbilisi-Kyiv route affected by the Ukrainian crisis.

Air Georgia is a proposed new LCC which will be based in Kutaisi Airport and operate in Europe and Central Asia with two A320s, adding two more at a later stage. The airline plans to handle 100,000 passengers in its first year, increasing to 500,000 in the second year of operation. Potential investors were asked to finance $50 million in the airline (Air Georgia, 2021).

In 2021 only six LCCs were in operation in the post-Soviet States. One of the oldest LCC is airBaltic started in 1995 and one of the youngest is HiSky Moldova started in March 2021 (Table 11.9).

11.8 DISCUSSION

Like the rest of the aviation world, Russia and the post-Soviet states have discovered the potential of the LCC model for expanding aviation access to more citizens at lower prices. Unfortunately, they have also discovered the fleeting nature of many of these start-ups which are going into volatile markets with well-established competitors. In regions with a history of state support for national flag carriers, these start-ups are also facing governments at war with their impulse to protect their national carriers through various regulatory means. At the same time, these national carriers are attempting to address the need and competition with their own "multibranding" efforts to create "carrier-within-carrier" LCCs. This strategy has not been successful in other markets that have attempted it (US, EU, and UK), but it may at least be a viable way for FSNCs to fend off LCC competition until they can lower costs.

Governments intent on increasing the number and variety of airlines operating in their markets need to address the regulatory hurdles that prevent airlines from achieving the full LCC model. This includes opening their markets to foreign investment, ownership, and leasing. These are very sensitive issues in any national market where most governments wish to limit foreign influence in the vital aviation sector. Still, airlines are expensive propositions in the best of times and dangerously unstable in the worst. While national governments have a responsibility to insure that their carriers operate safely and that their consumers are protected from potential industry abuses, interventions that prevent carriers from offering the service levels that match the prices consumers are willing to pay does not help the situation.

If governments such as Russia insist that airlines purchase Russian made aircraft or aircraft with Russian made engines while at the same time pushing them to establish more LCC operations, then they may well force "the market" to choose one action over the other. The latest effort by the Russian government to push the MC-21 as a replacement for the B737 and A320 could hit LCCs very hard if it results in new tariffs on foreign aircraft, import restrictions or if it results in the LCC use of aircraft with higher operation costs (Dagaeva, 2016; Pyadushkin, 2021; Stolyarov, 2020). There are also many related and supporting industries that play a vital role in the success of airlines such as banking with online facilities, travel booking sites, and travel comparison sites. These need to be fostered by governments and markets as well.

Based on past experience in other markets, LCCs in Russia and the post-Soviet states are in a race to achieve sufficient size that they are able to dominate their lesser, smaller competition just as Southwest and Ryanair dominate in their respective regions. In aviation, market power may be more important than business model (Button, 2012).

As if Russia and the post-Soviet states were not facing enough challenges in bringing low-cost, affordable travel to their markets, the Russian-Ukrainian war has created new, possibly devastating, challenges. The airspace over Moldova and Ukraine is closed to all traffic. Russian airspace is closed to over 40 countries and domestic Russian airline bookings fell early in the war by over 40% and are

still struggling as general economic conditions and low air travel demand persist (International Air Transport Association, 2022).

Longer-term challenges stem from the aircraft used in these markets, particularly Russia where three out of four aircraft are Western made and most are leased from Western companies. Without spare parts and service, many of these aircraft will not be able to fly safely (Hughes, 2022). While Putin attempted in 2006 to revive the Russian aircraft manufacturing industry by creating the United Aircraft Corporation to combine its four major manufacturers, most of their current products are heavily reliant on Western parts and like earlier Russian aircraft suffer from severe maintenance and reliability problems (Prince, 2022).

The lure of low-cost, affordable air travel has made the creation of domestic LCCs the holy grail of many national governments. Russia and the post-Soviet states are no exception. Sadly, there is no reason to assume that these countries will be an exception to the LCC experiences of the rest of the world nor to assume that events like the COVID pandemic and war/threats of war will not prove highly disruptive and financially impactful to firms in aviation and aerospace.

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