APPENDIX A

COMMERCIAL AVIATION IN THE CIS, 1992-1993[1]

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Civil aviation in the CIS has declined even more than the precipitous decline in the economies of the former Soviet Union. While overall economic activity has declined by about 35-40 percent from 1989 peaks, air traffic has fallen by 50-70 percent in total. Some purely domestic markets have suffered even greater declines, with some markets losing service altogether while others are experiencing traffic at one-fifth the level of four years ago.

The relatively worse performance of aviation is a function of both income effects through economic declines and inflation, as well as relative price effects. Under the old regime, fuel prices were subsidized even more than bread, with the result that Aeroflot paid less than 5 percent of world market prices for jet fuel. With increasing price deregulation, fuel prices had reached about 25 percent of world levels by late 1992. Administrative allocations at "old" prices have made this problem worse, as an active two-tier fuel market has arisen. Eventually, fuel prices will rise to world levels. When these adjustments are complete, forecasts are that the CIS will not achieve 1989 air traffic levels again until 2010-2015. In short, the restructuring associated with the transition to a market economy has produced a 20-year recovery period.

Aeroflot

Under the old system, Aeroflot was a vertically integrated air monopoly that provided the full range of civil air traffic control, airports, air carrier, and regulatory activities. There was substantial explicit and implicit influence from the Defense Ministry. Aeroflot was geographically organized as spatial monopolies, in which each region ran not as a separate airline (as in China in 1993), but rather as a pure operating base. There was no marketing or commercial functions to speak of, and accounting was used for transactional rather than information purposes.

With the dissolution of the USSR, Aeroflot has fragmented. Aeroflot Russian International Airlines has inherited the international bilateral responsibilities, but in general the former operational bases have become de facto integrated aviation conglomerates, with captive airports, airlines, and ATC. At the same time, there has been a great deal of entry, as startup airlines leased planes from western sources, eastern Europe or within the CIS. By mid-1992, it was estimated that there were 213 airlines providing scheduled service. Compared to 1990 levels, average 1993 fares are up about 18 times, which is still below the increase in all consumer prices of about 25 times. Operating costs, even with continuing fuel subsidies, are up 30-36 times, and the financial situation has become dire. Much consolidation is ahead, and the degree to which airline activities will be effectively separated from aviation infrastructure remains an open issue.

Air Traffic Control

Russian airspace is about 2.5 times the size of Canadian airspace. Currently, the CIS traffic involves about 12 million flights per year over about 1 million kilometers of air routes. Including overflights, the ATC system handles about 100,000 flights per day, roughly 36 million per year. Large areas of airspace are not available for security reasons and the lack of radar and navigation aids.

In mid-1993 Rosaeronavigatsia (which provides air traffic control for the Russian Republic only) operated 103 ATC centers, with plans to consolidate these to 30 centers by the end of the 1990s. Russian airspace is divided into 67 Flight Information Regions. Many short legs and heading changes are required. It has been estimated that 20-25 percent of flight times could be saved if efficient resectoring was undertaken. The present air navigation system is largely based on non-directional beacons and RSBNs. There is no provision for high level tracking. Most of the 130 national airports and the 3,000 local and regional airports are limited to ICAO Category I operations. However, the major airports all have Category II approaches, and the equipment, while technologically obsolete, appears to be in satisfactory working order in the major centers. Radar control is spotty, especially secondary surveillance radars. This is a particular problem for the heavily traveled R-22 and R-30 Trans-Siberian routes, which carry much of the Europe-Asia traffic. Implementation

of the GLONASS satellite positioning system for civil use has been delayed from its original 1995 target because of issues involving standards and coverage levels, as well as the ability to operate on an integrated basis with western systems, especially the US Global Positioning System (GPS).

Modernization of air navigation in the Russian Republic centers around modernization of air traffic control. The early modernization efforts were led by Westinghouse, which was eventually joined by other American, European, and Japanese suppliers, forming the GATSS consortium in 1992. However, in early 1993 Thomson CSF put forth an alternative proposal, and the Russian authorities have asked both GATSS participants and Thomson to jointly work out a proposal through the new RADUGA consortium.

Cost estimates for the Russian air navigation project have risen to $12-15 billion over a 15-20 year period. The western project participants claim that the hard currency portion of the project can be financed through overflight charges, although there is some skepticism about how much additional airspace usage will result.

In the other republics, air traffic control modernization has proceeded in somewhat fragmented fashion due to the small volume of airspace in these regions. For example, Kazakhstan and Belarus have developed their own plans; Ukraine has moved toward awarding a contract to Siemens; and the Baltic states have chosen to operate independently of each other. In short, air traffic control faces a large task of integration, both within the CIS and with Europe and Asia. The latter task will be made more difficult given English language deficiencies (the ATC language) and the ongoing uncertainties as to harmonization programs in western Europe.

Organization of Civil Aviation Activities

The other major problem of the fragmentation of civil aviation is that CIS-wide institutional structures are either not in place or are ineffective. There was an initial attempt to create a multilateral Interstate Civil Aviation Committee (MAK), with safety and regulatory responsibilities, but it never got off the ground. Rosaeronavigatsia has taken the lead in air traffic control in Russia; and the Aeroflot operations in Moscow, St. Petersburg, and Kiev are beginning to develop into commercial structures. The unresolved issues in these and other regions relate to control over airports and associated terms of access (landing fees, gate facilities, etc.) for other carriers both from the CIS and abroad. Planning studies have been started for the restructuring of the four Moscow airports, with debate over whether they should be under a single authority or in a more autonomous structure which might introduce greater competition among the airports.

Overall, three broad, but related, tasks face civil aviation in the CIS. First, there are major needs for upgrading and modernization, although much basic capacity (airports, runways) is already in place and can be cost-effective given the levels of traffic which can be expected in a market environment. Second, there is a need to reestablish the aviation network in the wake of post-1989 fragmentation. Much can be achieved by developing integrating air traffic control, developing clearinghouses, reservation systems, and interline agreements, and establishing safety and regulatory structures that apply to the entire network. Third, the organizational and institutional aspects of corporatization and privatization must be sorted out in the civil aviation sector. There is a need to separate airlines, airports, ATC operations, and safety regulation. This would serve not only to ensure safe operations, but also to put in place an institutional structure that does not merely convert a government monopoly into private spatial monopolies.

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[1] This summary is based on the author's work as part of a project on CIS transport reform undertaken by the European bank for Reconstruction and Development (EBRD). This summary draws heavily from the CIS aviation sector study financed by EBRD and conducted by Aerodev Consultants of Canada, with Walter MacLeish as principal author; and from the World Bank's CIS Transport Sector Analysis, May 1993.