

Table 4.4.3 Annual International Air Passengers at Warsaw International Airport

Year	LOT		Foreign Airlines		Total	Ratio (1979 = 100)
	Europe	Rest of World	Capitalist Countries	Socialist Countries		
1979	807,905	226,990	265,436	332,733	1,633,064	100
1980	755,500	229,563	221,701	286,328	1,493,092	91
1981	703,095	232,136	177,965	239,923	1,353,119	82
1982	328,279	112,983	72,663	60,216	574,141	35
1983	535,333	154,267	129,148	115,322	934,070	57
1984	738,118	258,063	172,937	150,077	1,319,195	80
1985	795,293	339,462	190,830	180,330	1,505,915	92
1986	802,540	324,342	217,513	206,539	1,550,934	95
1987	914,613	340,554	288,946	268,645	1,812,758	111
1988	1,060,191	432,324	363,337	287,432	2,143,284	131
1989	1,289,393	488,955	461,779	362,248	2,602,375	159
1990	960,589	449,239	524,186	334,083	2,268,097	139
1991		1,035,980		846,191	1,882,171	115

Source : LOT

Table 4.4.4 Annual International Air Passengers at Other Four Airports

Year	Gdansk	Krakow	Poznan	Szczecin	Total	Ratio (1979 = 100)
1979	21,534	30,434	5,267	3,527	60,762	100
1980	17,953	19,709	6,539	2,510	46,711	77
1981	14,371	8,983	7,811	1,493	32,658	54
1982	8,881	4,366	135	1,243	14,625	24
1983	11,423	18,247	5,345	6,666	41,681	69
1984	7,417	37,268	13,050	13,906	71,641	118
1985	15,936	31,372	8,996	12,706	69,010	114
1986	20,570	25,873	9,769	14,454	70,666	116
1987	27,040	46,230	11,856	4,094	89,220	147
1988	24,288	53,964	14,061	1,032	93,345	154
1989	52,061	57,226	9,721	81	119,089	196
1990	45,646	44,834	1,344	526	92,350	152
1991	30,649	52,378	11,432	1,449	95,908	158

Source : LOT

Table 4.4.5 Domestic Air Passengers by Airport

Year	Gdansk	Zieloga Gora	Krakow	Katowice	Slupsk	Koszalin	Poznan	Rzeszow	Szezecin	Warszawa	Wroclaw	Total	Ratio (1979=100)
1979	220,746	22,676	164,966	77,295	16,752	73,392	48,675	65,533	77,553	700,841	130,666	1,599,095	100.0%
1980	216,767	21,722	137,456	81,167	25,501	53,709	39,910	62,156	60,155	655,405	132,178	1,486,126	92.9%
1981	212,787	20,768	109,945	85,035	34,249	34,026	31,144	58,778	42,757	609,969	133,690	1,373,148	85.9%
1982	120,434	8,322	86,407	41,759	18,188	36,185	4,421	32,896	41,276	387,561	80,225	857,654	53.6%
1983	204,672	10,744	180,130	12,468	39,595	47,876	18,109	49,378	62,060	625,416	129,279	1,379,727	86.3%
1984	187,830	18,914	171,405	18,188	46,322	54,550	27,932	56,033	65,732	703,950	153,306	1,504,162	94.1%
1985	180,776	17,432	107,638	48,445	48,455	10,507	28,435	50,588	58,840	517,963	72,410	1,141,489	71.4%
1986	173,840	17,455	107,161	40,376	17,466	58,135	29,228	51,142	58,094	532,785	92,105	1,177,787	73.7%
1987	139,132	9,347	103,735	28,951	26,036	40,679	36,291	47,516	29,373	467,741	118,030	1,046,831	65.5%
1988	105,232	0	66,095	11,540	40,204	25,892	26,739	41,340	39,786	407,259	98,429	862,596	53.9%
1989	108,767	0	70,457	3,596	48,027	31,658	23,900	42,564	41,796	409,034	73,875	853,674	53.4%
1990	60,504	146	28,293	3,247	7,612	14,416	8,999	19,923	17,841	222,141	61,793	444,915	27.8%
1991	41,425	0	6,198	12	0	0	4,594	6,557	2,853	99,028	37,564	198,231	12.4%
1991/1979	18.8%		3.8%				9.4%	10.0%	3.7%	14.1%	28.7%	12.6%	

Source: LOT

3) Air Cargo Transport

The total volume of air cargo handled in 1990 amounted to 17,557 tons: 16,650 tons (95%) at Warsaw Airport including 12,134 tons of arrived and 4,516 tons of departed; and 907 tons (5%) at the other airports. At Warsaw Airport, the international cargo amounted to 15,800 tons (95%) while domestic cargo amounted to 850 tons (5%). Of the international air cargo handled in Warsaw Airport, 11,973 tons (76%) were for import and 3,827 tons (24%) for export. LOT carried 9,837 tons (62%) of international air cargo handled in Warsaw Airport in 1990 while foreign airlines carried 5,963 tons (38%).

The total volume of air cargo has steadily been increasing since 1982. It increased from 7,465 tons in 1985 to 17,557 tons in 1990 with an average annual growth rate of 18.7%. During the same period, the import volume increased from 3,413 tons in 1985 to 11,973 tons in 1990 with an average growth rate of 28.5%, resulting in an increasing percentage share of import from 45.7% in 1985 to 68.2% in 1990. Airport facilities need to be improved to facilitate international air cargo import.

4.4.4 Institution and Organization of Air Transport

1) Air Law

The authority responsible for civil aviation in Poland is the General Inspectorate of Civil Aviation (GICA). The basic legal act on civil aviation in Poland is the decree "Air Law" promulgated in the Journal of Laws No. 32 item 153 on 31 May 1962. It is said that rules and procedures relevant to the Annexes to the ICAO Convention on International Civil Aviation and Procedures for Air Navigation Services (PANS) are issued by GICA under the authority of MTME. In principle, however, many articles of the almost 30 years old Air Law states that decisions shall be made by the MTME in agreement with the Ministers of National Defence and Internal Affairs.

It is obvious that the old Air Law needs modification to conform with the principles and practices prevailing in the western world. As of July 1992, amendment of the Air Law drafted by GICA to this end has been submitted to the Council of Ministers and the Parliament to get approval.

2) Organization

(1) General

There are three governmental/semi-governmental organizations under the MTME related to civil aviation in Poland as follows:

- General Inspectorate of Civil Aviation (GICA)
- Polish Airports State Enterprise (PPL)
- LOT Polish Airlines (LOT)

The proposed law concerning privatization of PPL has not yet been approved by the Parliament as of July 1992, but the Act of June 14, 1991 concerning ownership transformation of LOT Polish Airlines has been approved. Thus, in a sense, LOT has been privatized with 51% of stocks retained by the state.

(2) General Inspectorate of Civil Aviation (GICA)

GICA is the authority responsible for the civil aviation in Poland. The organization chart is shown in Fig. 4.4.5. The main tasks of GICA include:

- a) preparation and discussion of proposals concerning multilateral and bilateral international aviation agreements;
- b) carrying out, in the name of the MTME, the duties of the chief agency of the government administration in civil aviation matters;
- c) cooperation with aviation administration agencies of other states and with the international organizations concerned with civil aviation;
- d) keeping the state register and records required under the Aviation Law;
- e) discharging the duties of licensing agency and certification of air transport and services;
- f) cooperation with the Central Commission for Investigation of Aviation Accidents and with the State Aviation Examination Commission; and
- g) cooperation in matters pertaining to meteorological protection of civil aviation against acts of terror and sabotage.

Main issues of GICA are:

- a) to rectify the existing Air Law to conform with the present needs;
- b) to establish modernized ATS over Polish airspace in coordination with PPL and Air Forces/Defense;
- c) to up-date international agreements with neighboring nations to provide more air traffic rights; and
- d) to become familiar with Western made aircraft and up-date airworthiness directives to enable easier and faster purchase of Western made aircraft.

(3) Polish Airports State Enterprise (PPL)

A few articles of the Air Law have been amended since 1984 in order to comply with the changing situation of the country. The most significant amendment may be the establishment of a self-financing state enterprise, PPL in 1987.

While PPL is responsible for the operation and maintenance of civilian airports, it also provide civil air traffic services. Thus, in a sense, PPL has gained power to plan and develop Polish airport facilities and air navigation systems. In reality, however, PPL does not have any development plan of airport facilities, but only a master plan for the development of air navigation systems.

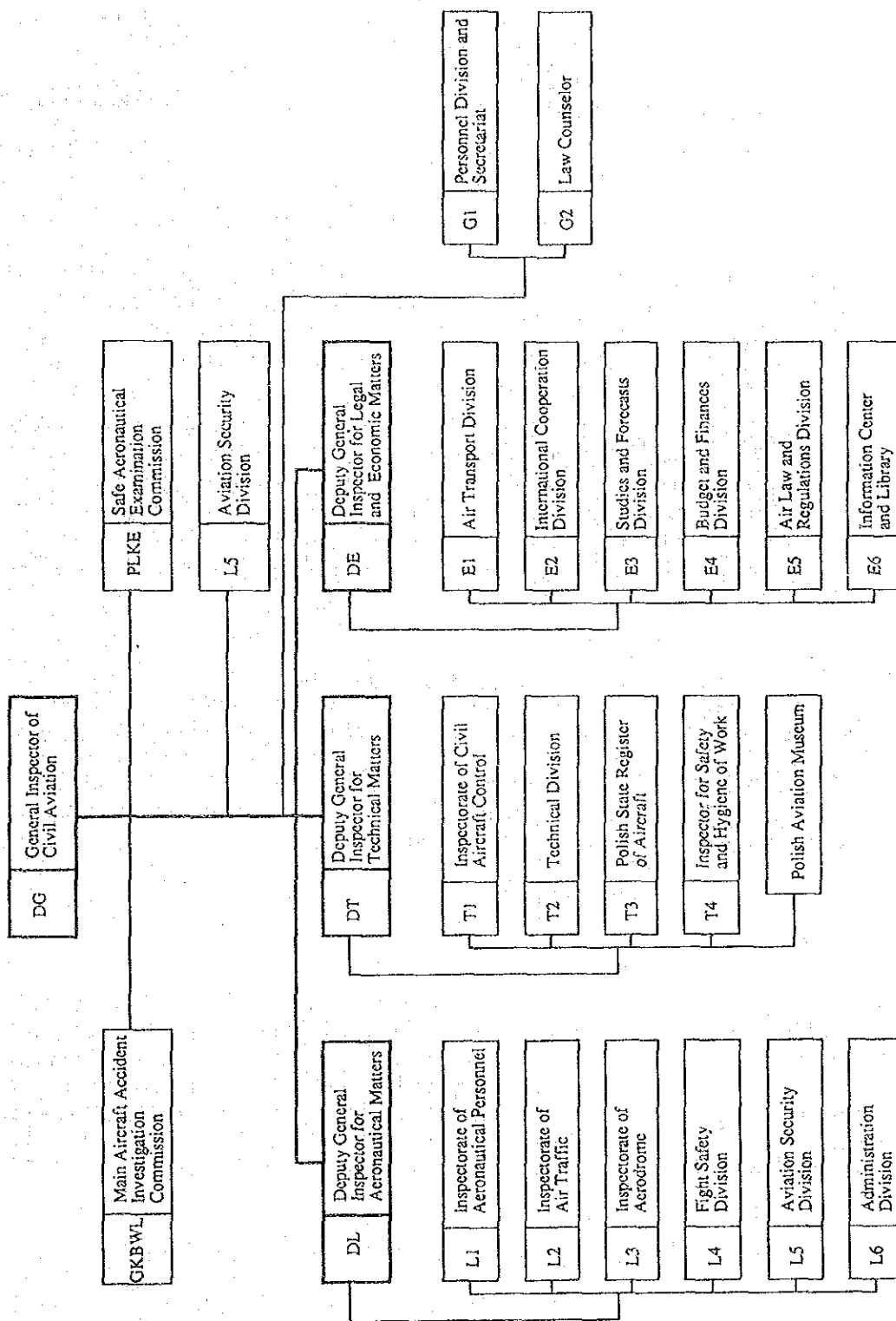


Fig. 4.4.5 Organization of General Inspectorate of Civil Aviation

Although air traffic services are profitable due to the increasing number of overflights, PPL as a whole has been in deficit due to:

- a) decreased revenue of airport tariff because of the declining traffic volume;
- b) increasing operating costs as well as a large amount of taxes especially imposed on state enterprises; and
- c) repayment for the new international passenger terminal at Warsaw Airport.

To cope with the poor financial performance, PPL closed down such airports as Koszalin, Slupsk and Zielona Gora for scheduled flights in 1991, but the closing of these airports did not contribute to save the expenditures. ATS has a dilemma that while it has been producing a large sum of profit, PPL does not allow to use the profit for improving its facilities.

In April 1992, PPL was reorganized to have three units: (a) a unit for Warsaw International Airport; (b) a unit for other airports; and (c) Polish Air Traffic Agency (PATA). The re-organization likely aims at creating financially independent units in the future although for the time being revenues of the three units are to be pooled in a single account of the whole PPL so as to cross subsidize smaller airports other than Warsaw Airport. This policy seems reasonable from a view point of securing access to airports in every region of the country.

(4) LOT Polish Airlines

LOT is one of the oldest airlines in the world. It was founded in 1929 as a state-owned and self-managing enterprise. LOT reopened its operation in 1945 after World War II. The post war fleet typically consisted of Soviet equipment, but in 1989 LOT became the first East European airline to acquire western made Boeing B-767 aircraft. Fleet replacement of LOT has been accelerated since then. The updated organization chart of LOT is shown in Fig. 4.4.6.

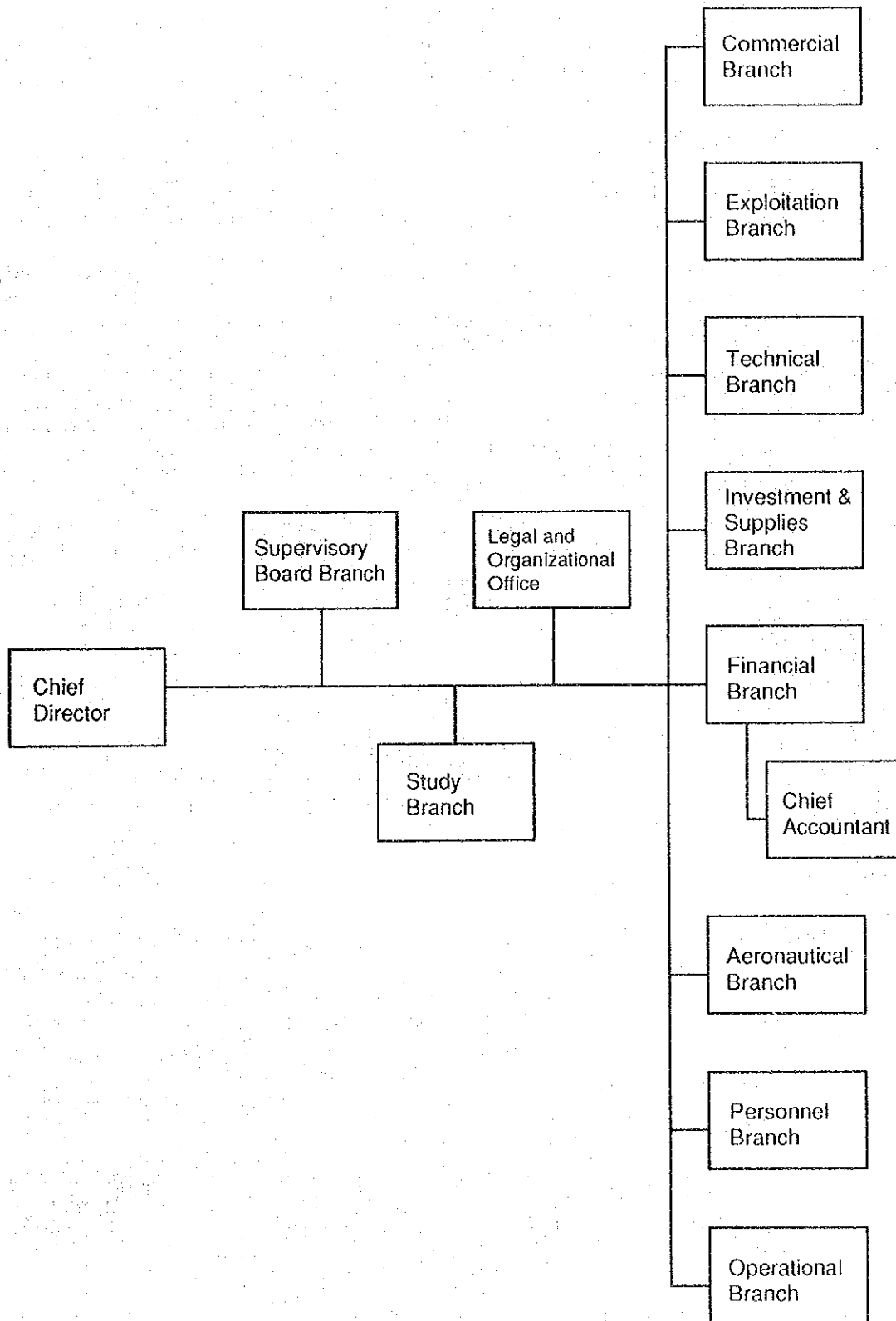
4.4.5 Airspace and Air Traffic Services (ATS)

1) Airspace

Nearly all the aircraft departing, arriving or overflying the Polish airspace are required to file a flight notification twenty-four hours in advance and obtain permission from the military prior to their departure. Sole military control over airspace except air traffic control by civilian over airways hampers normal and efficient use of the airspace by civil traffics. To improve air traffic system in the Polish airspace, the Inspectorate General of GICA and Commanders of the Air Force and Air Defence established a task force in November 1990 comprising civilians (representatives of GICA, PPL and LOT) and military officials.

The task force made the following accomplishments:

- (1) proposal of an improved airspace structure which conforms with the ICAO airspace classification;
- (2) introduction of new airways and enroute including RNAV; and
- (3) reduction of the number of danger zones (from 19 to 12) and prohibited zones (from 44 to 32) and lowering the upper limit of 5 danger zones.



(as of July 1992)

Fig. 4.4.6 Organization of LOT Polish Airlines

Further recommendations will be made by the task force in the coming years in terms of establishment of civil/military joint use of the airspace, further reduction of the number of danger/prohibited zones and introduction of new ATS information system.

2) Air Traffic Services (ATS)

Over 90 thousand aircraft overflew the Polish airspace and about 39 thousand made either landing or taking off operations in Polish airports in 1990.

Two Westinghouse monopulse SSRs were installed at Poznan and Pultusk and a Westinghouse Airport Surveillance Radar (ASR-9) for Warsaw/Okencie was commissioned in May 1992. Modernization works of various equipment and systems at Warsaw ATC Center has also been taking place. The existing ATC system is capable of handling the present level of air traffic. However, the system is likely to face capacity constraints in the future due to the rapidly increasing number of aircraft passing the Polish sky. The constraints will emerge mainly from the mixed configuration of outdated equipment of various manufactures as well as the lack of enroute/terminal radar surveillance/display capacity.

The existing system should be replaced by modern upgraded technologies as adopted in the western countries. PATA is aware of this necessity and making efforts to modernize the system.

4.4.6 Airlines

1) LOT Polish Airlines

As mentioned earlier, LOT Polish Airlines had been a state owned and self managing national flag carrier. At present, LOT is a company established under the Law of June 14, 1991 with 51% of its stocks retained by the state. MTME is expected to participate in its management in the very near future.

(1) LOT Fleet

The LOT fleet totalled 30 aircraft as of July 1992 as shown in Table 4.4.6. Three B767s were acquired in 1989 at a cost of some 165 million US dollars and a contract for 300 million US dollars has been signed for the purchase of nine additional B737s. LOT has rented two B737-500s until the time when four of the B737-500s will be delivered by the end of 1992. LOT plans to assign these aircraft to mid-distance European and Middle East / African routes in place of the Soviet make TU-134s and TU-154Ms. All TU-134s and 154s are planned to be grounded by April 1993.

One Aeritalia ATR-72 was delivered in 1991 and three additional ATR-72s are going to be delivered by August 1992. All AN-24s and IL-62Ms that were grounded in September and November 1991 respectively have been sold or scrapped.

Table 4.4.6 LOT Fleet

As of July, 1992

Aircraft Type	No. of Aircraft in Service	Seating Capacity	Flying Range (km)	Remarks
Aeritalia ATR-72	4+(4)*	64 (TL)	2,700	* 1 delivery in '92 2 delivery in '94 1 delivery in '95
Boeing B737-400	(4)**	8+138=146 (B) (E) (TL)	2,744	** 3 delivery by Dec. '93
Boeing B737-500	(2)#+(5)##	37+ 72=111 (B) (E) (TL)	3,476	# leased from Linjefing till April '93 ## 4 delivery by Dec.'92 and 1 delivery by Mar.'93
Boeing B767-200ER	2	18+190=208 (B) (E) (TL)	12,600	2 more purchase planned in '95 & '96
Boeing B767-300ER	1	24+225=249 (B) (E) (TL)	11,700	
Tupolev TU-134A	7	24+ 40= 64 (B) (E) (TL)	3,000	scheduled to be grounded by Apr.'93
Tupolev TU-154M	14	52+ 98=150 (B) (E) (TL)	2,400	to be grounded
Antonov AN-24	<7>^	50-52 (TL)	2,000	^ sold out or scrapped
Ilyushin IL-62M	<7>^^	60+ 96=156 (B) (E) (TL)	10,200	^^ sold out

Source: LOT
 Note: (B) Business Class
 (E) Economy Class
 (TL) Total

(2) LOT's Problems in the Transition Period

The transition from the centrally controlled system to a free market economy has been threatening LOT's survival due to drastic drops in revenues and government support. Since there were virtually no airport/air navigation charges (except 10 months in 1990) among former CMEA nations, LOT enjoyed indirect government subsidies in the form of the Uniform Air Passenger Tariff (EAPT). The Polish government received no user charges from CMEA airlines and, in return, LOT paid no charges to CMEA countries. LOT also benefitted from another form of government protection in that fuel was available for US\$40 per ton, or about 10% of the current price. Thus, LOT was making enough profit to even cross subsidize domestic services until the end of 1989.

The financial picture has altered drastically since 1990 when convertible currency regulations instantly eliminated "cheap" LOT tickets from passengers point of view. Previously, western airlines were not allowed to sell their tickets locally in zloty and foreign currency was not available to Polish citizens at the official exchange rate (black market exchange rates were several times higher than official

rates). LOT thus dominated the Polish air transport market. New currency regulations and devaluation of the zloty caused a sharp rise of zloty based air ticket prices and, as a consequence, many Polish citizens shifted from air to land transport. In the international air market, LOT was no longer a first choice of passengers because of superior services offered by foreign carriers often at more competitive prices.

Furthermore, abolishment of the EAPT structure resulted in the introduction of formal air fares and airspace tariffs to and from the former CMEA countries. Diminishing political and economic ties with these countries in tandem with raised ticket prices has negatively affected air traffic demand as well. As a result, international air passengers carried by LOT decreased by some 20% in 1990 compared with the previous year. This trend continued to 1991 with further decrease of some 40% relative to 1990. The sharp fall of air passengers has dramatically reduced LOT's income. LOT faces additional financial burdens of:

- a) repayment for the purchase of three B767s on a 12 year term (US\$165 million);
- b) repayment for the investment finance of cargo terminal and catering building at Warsaw International Airport (US\$70 million);
- c) repayment for the investment finance of fuel handling and storage facilities including hydrant system at Warsaw International Airport (US\$25 million);
- d) repayment for the purchase of four Aeritalia ATR- 72s; and
- e) increasing wage payment for employees plus additional tax payment to the government.

Thus, the net profit of LOT, which amounted to some US\$98 million in 1989, decreased to US\$10 million in 1990 and is likely to result in a deficit of some US\$20 million in 1991. In order to solve this cash flow problem, LOT has sought government guarantees for bond issuance as well as subsidies for domestic air services.

LOT needs to introduce fundamental management operation reforms. A comparison of LOT with other international airline companies with similar performance (scheduled international passenger kilometers flown) reveals several contrast as shown in Tables 4.4.7 and 4.4.8. LOT carried some 0.42 million domestic passengers in 1989, however, domestic passenger kilometers totalled less than 4% of international transport. Yet, in comparison, LOT appears over-staffed and the fleet under-utilized. LOT needs to increase productivity via reduction of redundant staff positions as well as increased aircraft utilization.

It is understood that discussions are discontinued with Lingeflig, a Swedish airline, for inter-airline cooperation on aircraft scheduling since studies regarding possible joint-venture operations have proven not feasible. Most part of Europe can be covered by same-day flyout and return. LOT should investigate more efficient application of aircraft by taking account of business travelers' needs and convenient connections between domestic and international flights. As of July 1992, LOT has made improvements in staff reduction and a more convenient flight schedule.

LOT should also explore strategic alliances with larger airlines, a common practice in today's global airline business. For example, SAS cooperates with Swiss Air, Finnair, Austrian Airlines, British Midland, Canadian Airlines International, Continental Airlines and All Nippon Airways. The corporate strategy which underlies this alliance is access to more destinations and more passengers via linkage with the "partners" reservation system and, via a "one-stop-transfer" route network.

**Table 4.4.7 1989 Staffing Level Comparisons:
Selected International Airlines**

Criteria	Airline	LOT	Royal Jordanian	Kuwait Airways	Virgin Atlantic
Scheduled Passenger-Kilometers Flown (International) (in million)		3,583	3,665	3,893	2,966
Pilots and Co-Pilots		324	201	192	82
Other Cockpit Personnel		346	212	39	46
Cabin Attendants		528	553	572	522
Maintenance and Other Overhaul		1,122	594	1,114	144
Ticketing, Sales and Promotion		576	546	172	293
Airport Handling		1,118	1,416	434	128
All other Personnel		2,763	1,390	3,064	151
Total		6,820	4,912	5,587	1,363

**Table 4.4.8 1989 Fleet Utilization Comparisons:
Selected International Airlines**

LOT		Royal Jordanian		Kuwait Airways		Virgin Atlantic	
Fleet	Utilization	Fleet	Utilization	Fleet	Utilization	Fleet	Utilization
2 B767	1:24	3 B707	4:22	3 B747-200B	9:21	3 B747-200	14:54
7 II-62M	6:00	3 B707	6:47	3 B747-200B	5:19	4	
11 Tu-134A	4:22	6 L-1011	10:59	3 B767-200ER	6:28		
7 Tu-134A	3:36	5 A310	8:29	5 A310-200	8:10		
8 II-18	2:34			1 A310-600	8:06		
11 An-24	3:42	17		1 (a) B707-320C	9:23		
1 Piper-Seneca				2 BAe-125-700	1:04		
47				18			
				(a) Leased in			

Source IATA

- * Fleet: all aircraft in service and available for operation at 31 December 1989, including equipment leased in from other organizations but excluding aircraft leased out to other operators on the data. LOT 767s were put in service in April and May of the year
- * Utilization: average block time flown (in terms of hours and minutes) per aircraft per day.

(3) Key Issues

It is clear, as indicated above, that LOT must urgently address perceived shortcomings. Key issues, as well as resultant recommendations, may be summarized as follows:

a) Financial Aspects

- (a) to carefully analyze the cash flow requirements caused by fleet replacements with a view of taking advantage of the replacement;
- (b) to investigate options for strategic alliances with appropriate airlines to include a possible short-term capital infusion; and
- (c) to negotiate with the government and/or private sector for possible cost sharing of constructing fuel handling and storage facilities at Warsaw International Airport.

b) Managerial and Administrative Aspects

- (a) The financial and management system is too complex and should be reformed to provide useful information for commercial operations;
- (b) Comprehensive, computerized office information systems should be developed to enhance the efficiency of management;
- (c) The present ticketing system should be reviewed with a view to entrusting ticketing services to domestic and foreign travel agencies;
- (d) Redundant employment should be streamlined, coupled with the introduction of incentive measures; and
- (e) Human resource development programs need to be prepared especially for senior and middle management.

c) Operational Aspects

- (a) Customer oriented flight services and timetables should be offered, coupled with enhancement of aircraft utilization;
- (b) New routes to the Baltic republics, Byelorussia and Ukraine should be opened as soon as possible, in cooperation with foreign carriers;
- (c) Some of the domestic trunk services to Gdansk, Krakow, Rzeszow, Szczecin and Wroclaw should be reevaluated in the light of possible alliances with foreign carriers and/or emerging private airline companies;
- (d) Potentials for expanding air cargo transport should be explored with a focus on best utilization of newly constructed cargo facilities at Warsaw International Airport; and
- (e) Promotion of international tourist traffic should be investigated in cooperation with travel agencies.

2) Private Airlines

Since mid 1989, private companies have been allowed to enter the civil aviation activities of scheduled or non-scheduled passenger and cargo transport in both domestic and international markets. They are also allowed to enter such aviation related businesses as aircraft maintenance, manufacturing of aircraft parts, flying schools and other aircraft reliant services (e.g. agriculture spraying, aerial photography, medical and rescue flights, aerial advertising, and off-shore construction).

Companies or individuals wishing to commence some of the above activities (except companies manufacturing aircraft and parts) must first obtain a license from MTME in the designated field of activities. They are allowed to commence businesses only after inspection and certification by GICA on their technical, financial and insurance capabilities. As of September 1992, 110 companies (101 Polish companies and 9 Polish/foreign joint ventures) have been granted licenses and 56 thereof (54 Polish companies and 2 joint ventures) have been certified. However, only three companies are certified to provide scheduled domestic and international air transport services.

(1) Elgaz Airlines

Elgaz Airlines, based at Gdansk Airport, has been operating international charter flights to/from European countries as well as domestic services since 1991. The fleet consists of one Corvette aircraft. The main activities are in the international business charter flights. The firm, encouraged by the positive results in the first year, intended to purchase additional Corvettes during 1992 to expand their international business and 18-20 seat turboprops for the domestic market. Unfortunately, however, its mother company "Elgaz" reportedly went bankrupt in July, 1992. The future of "Elgaz Airlines" is unknown at the moment.

(2) POLNIPPON

The POLNIPPON Company is an economic consulting firm established in 1990 with Polish and Japanese funds. Aviation services, which were certified in January 1991, are for non-scheduled air passenger and cargo transport. POLNIPPON purchased two Ilyushin IL-18 from Interflug, former flag carrier of the German Democratic Republic. These aircraft, with a non-stop flight range of 6,500 km, have been rebuilt to cargo versions with the maximum loading capacity of 6 tons to include a sealed and air conditioned capability. The main business to date is air cargo transport, mainly import of spare parts, machineries and electronics as well as export of frozen meat and cut flowers. Freight services link Poland with Europe, North America and the Middle East as well as third countries such as cabotage between France and the Canary Islands. The company, based on a good business performance, is looking forward to expanding their activities to the East, especially Asian nations including Japan.

(3) LNX International and Domestic Airline

The company, established in 1991 in Warsaw, intends to operate scheduled and non-scheduled air passenger services mainly in the domestic market. The company plans to operate Fairchild Metro III (19-20 seats) on scheduled routes and LET L-410 (16 seats) on a demand basis. The lease-purchase agreement for Metro III aircraft with the Fairchild Aircraft Company is almost finalized as of July 1992, however, it lacks funds for the first installment payment of US\$100,000 dollars and is not confident on maintaining regular flight services.

(4) AVTEK

AVTEK, based at Suwalki airfield, has been operating two AN-2 to carry passengers and cargoes to and from Wilna, Lithuania since June 1992 with the aim of overcoming the time consuming border crossing by road transport. (As of July 1992, it was said to take one to two days). Their future business remains to be seen since it could be vulnerable to future prosperity improvement of border crossing procedures. At the moment, the company faces difficulties in obtaining permission to fly into the airspaces over the Baltic states, Byelorussia and Ukraine because these airspaces are still controlled by Moscow.

4.4.7 Integration of the Polish Air Transport System with the EC

It is expected that Poland will become a member of the European Community (EC) toward the end of the century. Polish aviation regulations must therefore comply with the EC guidelines:

- (1) Any Polish Air Law which is more stringent than EC regulations shall be adjusted to agree with the latter within 10 years from the time of becoming an associate member of the EC; and
- (2) No new Polish regulations governing air services shall be introduced from the moment Poland becomes an associate member of the EC.

In other words, Poland is prevented from adopting any regulations inconsistent with the EC rules in areas where no regulations exist under the present Polish Air Law. In this regard, there seems to be several regulations to be introduced at the earliest opportunity concerning:

- (1) flight slot allocation;
- (2) computer reservation system;
- (3) certification of air transport operators in Poland; and
- (4) operations of foreign carriers.

The Department of Legal and Economic Matters, GICA, has already prepared draft regulations addressing these issues and are awaiting agreement of other government agencies and approval of the Parliament. Prompt action should be taken in this regard.

Regulatory regimes articulated by the Polish Air Law need to be adjusted to those of the EC which are more deregulated and liberalized than those of Poland. Thus, it is apparent that LOT will be thrown into a more competitive market once Poland joins the EC. The gestation period of about 10 years should be well programmed to strengthen the international competitiveness of LOT.

4.5 Container Transport

4.5.1 Change of Economic System

The government of Poland had placed a great importance on coal mining and heavy industrial production during the old regime of a centrally controlled economy. Though the government recognized the importance of consumer goods production to improve the living standard of its people, the production performance was not successful in satisfying the demand, resulting in a chronic lack of consumer goods.

Due to the negligence of consumer demand, production performance was evaluated only in terms of realized production quantity vis-a-vis planned production quantity without any particular attention to quality improvement or scheduled delivery of products.

The above circumstances, eventually, entailed underdevelopment of transport services, and public transport services of consumer goods in particular. Production units as well as retail units possessed their own means of transport to procure their necessities with limited dependence on public transport services while most of the large scale industrial manufacturers relied on railway transport through their private sidings laid in their production sites for accepting materials and dispatching products.

This type of direct transactions between producers and customers did not give any encouragement to use distributors. Such major commodities as coal, steel and steel products, petrochemicals, cement and concrete products, and grains were transacted between producers and customers without any intermediate dealers. These commodities were mostly sent to customers by railway from producers' sidings to customer's sidings.

In the agricultural sector, state farms and cooperatives performed a distribution function by purchasing products from small private farmers to sell them to markets and large customers. In recent years after the economic reform, however, state farms and cooperatives have been collapsing mainly due to suppression of subsidies, resulting in the collapse of the distribution system of agricultural products.

In the consumer goods sector, small wholesalers have been emerging on a local basis since the introduction of economic reform. At the moment, however, their business operations are extremely limited because of their unaffordability of commercial finance. It is likely that several years would be required for them to grow into a medium/large scale business entity which deals with wider assortment of consumer goods on a regional or nation wide basis.

In the retail sector, a number of small retailers have also been emerging in city areas while large sized department stores and supermarkets which were formerly owned by the state operate their business in a traditional way. Small retailers usually have their own small vehicles to buy commodities at dispersed wholesale markets. Their buying lot is very small. On the other hand, large sized department stores and supermarkets have a nation wide network for procurement of commodities through central warehouses. Until recently, however, it usually took a couple of months from the time of placement of the order to the time of delivery. Due to the seller's market, no particular measures have been introduced to shorten the delivery period. Warehouses have been established in old buildings which were not designed for that particular purpose. In consequence, mechanization of warehousing works was obstructed, leaving every work to be done manually.

As discussed in the above, general cargo transport services including container transport have not been well developed in Poland mainly because of the great emphasis on transport of coal and heavy industrial products in a centrally controlled economy. Less importance placed on consumer goods would have been a major reason for underdevelopment of the distribution system of consumer goods and the resultant underdevelopment of general cargo transport services.

In a market economy, the importance of container and inter-modal transport services was recognized when productivity improvement on the whole process from production through marketing became inevitable to cope with the keen competition among suppliers. The movement of productivity improvement was firstly initiated in individual factories to the maximum possible extent and then extended to the distribution system comprising packaging, warehousing, loading and unloading, transporting and information processing. Abundant supply of goods relative to demand which intensifies competition among suppliers would have been a propeller for rationalizing the whole process of distribution. "Unit Load" is a principle in this regard.

Under the present circumstances of the Polish economy, there seem to be many domestic factors hindering the development of container transport services including:

- (1) a limited number of manufacturers of light industries and consumer goods which will continue to lead to a supplier's market from a domestic point of view;
- (2) weak purchasing power of consumers in the foreseeable future due to a stagnant economic performance during the period of economic restructuring;
- (3) a combined effect of (1) and (2) above that will not encourage the immediate development of container transport services; and
- (4) the lack of an action program of PKP to extend its transport services to feeder transport as well as to expand its function as a nation wide forwarder, until recently.

On the other hand, international trade has become more and more important to the Polish economy: export for earning foreign exchange on one hand and import for supplying goods which are not domestically supplied or in short supply on the other. Development of container transport is very important in this context. An unit load system including containerization and palletization is the prevailing practice in the developed countries, EC countries in particular. The same system compatible with that of the EC countries needs to be introduced as soon as possible so as not to disturb the possible growth of international trade.

4.5.2 Present Situation of Container Transport

1) Combined Transport between Railway and Road Transport

Until recently, the PKP engaged in transport services only on railway lines except feeder transport services to and from railway yards or stations.

In the case of loading, railway users were required:

- (1) to reserve wagons or containers in advance;

- (2) to load cargoes onto wagons or containers by user's responsibility including arrangement of labors and loading machines in a specified time period; and
- (3) to pay transport fees only on railway lines.

In the case of unloading, railway users were required:

- (1) to unload cargoes from wagons or containers by user's responsibility in a specified time period; and
- (2) to receive cargoes within one month after the arrival notice from PKP, otherwise PKP was entitled to sell them at its disposal.

PKP had no customer service to invite more cargoes to railways. For those who have railway sidings in their sites, railway transport would have been quite convenient as long as they were not interested in quick and punctual transport services. Railway transport, therefore, used to be prohibitory for those who have no sidings.

Railway operations of PKP are dependent largely on the revenue from cargo transport. In view of the decreasing transport volume of coal and heavy industrial products in recent years, more efforts would be required for PKP to invite other type of cargoes to the railways. Immediate action should be taken to develop feeder transport services, loading and unloading services as well as warehousing services being the minimum requisite.

2) Combined Transport between Sea and Road

Railways had been the main inland transport means from the sea ports of Gdansk, Gdynia, Szczecin and Swinoujscie. Road transport, therefore, has not been developed as an inland connection to and from sea ports.

Main issues of access road to sea ports are that:

- (1) most of the access road passes through the center of cities near sea ports;
- (2) most of the access road have no good connection with major highways because of the reason mentioned in (1) above; and
- (3) the loading and unloading system in the ports has not been well designed for road transport because priority has historically been given to railways.

In the past years, bulky cargoes were the major commodities handled at ports. In recent years, however, the situation has been changing with an increasing importance to general cargo, container shipment in particular. The change likely puts more importance to road transport because of the requirements for quick delivery in small lots to various destinations. The existing port layout and operating system should be reviewed from this point of view.

Development of inter-modal transport at Polish ports would be vital for the survival of these ports because Polish ports are facing keen competition with alternative land connections to such international terminal ports as Rotterdam and Hamburg. If Polish ports should fail to develop an efficient container handling system, most of the containers would likely be transported by railways and/or roads.

3) Loading and Unloading Equipment

It seems that new technologies have not been introduced to loading and unloading machines for many years. The grab crane is the most widely used equipment for transshipment of bulky cargoes. In the case of transshipment of coal and grain, grab cranes often damage wagons and leaves substantial volumes remaining to be handled manually. The grab crane is widely used in transshipment of chemicals as well. Safety is another problem in this case.

Special types of containers are used for liquid cargo transport. These containers are fixed to railway wagons, forcing transshipment of the content from one mode to another. Instead, the container should be transported by itself.

4.5.3 Development of Combined Transport

The quality of transport services depends how cargoes are transported quickly, punctually and safely from a consignor's gate to a consignee's gate. In the case multiple transport modes are involved, the quality of services depends on the handling efficiency from one mode of transport to another. The most important factor to improve the quality of transport services lies in systematic coordination of the whole transport process.

Coordination between different modes of transport should include:

- (1) coordination of time tables for the sake of customers' convenience;
- (2) standardization of packaging including cardboard boxes, pallets and containers;
- (3) improvement of loading and unloading systems; and
- (4) operational information exchange.

Combined transport involves a variety of companies which engage in different processes of transport services from a consignor's gate to a consignee's gate. A forwarding agency should have general information on the whole process as well as detailed information on each component of the process, including:

- (1) alternative route information including every available mode of transport;
- (2) cost and time required for alternatives including main line and feeder transport services;
- (3) present position of cargoes in the midst of transport process and delivery schedule; and
- (4) information on the exact situation and recovery measures in case of emergency.

Presently, the number of forwarders whose business scope of work cover combined transport services are extremely limited in Poland. A former PKS company, a joint venture with a Swedish transporter, has been engaging in domestic and international transport services based on trucks and railways. The company owns six container terminals, warehouses and thirty-five hundred containers to offer transport services including customs clearance, railway feeder services, warehousing, distribution and so on. At the moment, however, the cargo handling volume is rather limited.

In February 1992, container block train services (once a week between Hamburg Port and Warsaw/Gliwice) were started by "POLZUG" of which the stock holders are PKP, Hamburg Port Authority and a German forwarder. However, there appeared to be a problem that custom clearance takes 4 to 7 hours at the border crossing. To solve this, PKP requested the customs office to transfer the inspection point from the border to the destination points.

In addition to the above, PKP is going to establish an international combined transport operator, named "POLCOMBI", jointly with POL, PKS, PEKAES and C. Hertwig by the end of 1992. Due to the uncertainty of the timing when demand for combined transport services will flourish in the future, PKP intends to keep the initial capital investment minimum.

4.6 Urban Transport

4.6.1 Urban Transport in General

1) Urban Transport Services

Urban passenger transport services in cities and suburbs are supplied by city and state transport enterprises. City transport enterprises can be grouped into: (1) city based enterprises exclusively in one city or eventually suburbs; and (2) voivodships based enterprises covering several cities in a voivodship. In the latter case, a city is considered as a department or branch office in voivodship. Urban transport services can be supplied by one branch enterprise or by multi-branch enterprises acting in a city development scheme. There are 57 enterprises of one branch (41 city and 16 voivodship) as well as 48 enterprises of several branches organized by city or voivodship.

Urban transport can be classified into three groups:

- (1) bus transport in 274 cities of all voivodships;
- (2) tram transport in 45 cities of 13 voivodships serviced by 14 enterprises; and
- (3) trolley transport in 5 cities.

Buses are the most popular urban public transport means prevailing in all cities, followed by trams. Railways are seldom used as urban transport means except in a couple of cities like Gdansk.

Urban transport services are concentrated mainly in city areas. Of the total urban transport network of 43,701 km, only 10,488 km (24 %) of the network serves the country side. Urban transport services are supplied in 274 cities, constituting 33.3% of all the cities (822) in Poland. Urban transport services are supplied to 18,666,000 citizens, accounting for 85% of total citizens of 23,176,000 in Poland.

- (1) Urban transport services are supplied in all the cities with a population of over 50,000.
- (2) Urban transport services are provided in 91 cities with a population of 20,000 - 50,000 population, which accounts for 71.1% of the cities of this category.
- (3) Urban transport services are provided in 99 cities, with a population less than 20,000, accounting for 16.2 % of the cities of this category.

Tables 4.6.1, 4.6.2 and 4.6.3 summarize the present situation of urban transport in Poland.

Table 4.6.1 Rolling Stocks for Urban Transport

	Rolling Stock (unit)	in Operation (unit)	Passengers (thousand)
Bus	14,395	10,110	1,142.4
Tram	4,604	3,164	405.0
Trolley Bus	258	156	11.2

Source: Komunikacja Miejska, Stan Obecny i Kierunki Jej Rozwoju

Table 4.6.2 Urban Transport Service Network

Bus	41,020 km
Tram	2,488 km
Trolley Bus	192 km
Total	43,700 km

Source: same as Table 4.6.1

Table 4.6.3 Operational Achievement of Urban Transport

	1987	1988	1989
passengers/seat/year	5,645	5,624	5,462
passengers/vehicle/year	649,500	648,500	633,886
passengers/vehicle-km	8.30	8.20	8.07

Source: same as Table 4.6.1

2) Financial Situation of Urban Transport

The financial situation of urban transport services is in deficit. Most of the deficit is subsidized by local governments (urban transport bodies established by city or voivodship). In 1989, the income from ticket sales amounted to 331.67 billion zloty while the cost of operation and maintenance amounted to 917.50 billion zloty in the same year. In other words, the income from the ticket sales covered on average only about 36 % of the operation and maintenance cost. The situation differs from city to city, ranging from 30 % to 40 %. The deficit amounted to 585.83 billion zloty. The subsidies which assure a 5% profit for the public transport enterprises amounted to 615.12 billion zloty in the same year.

3) General Issues of Urban Transport

Rapidly rising car ownership in recent years has been putting an increasing burden on urban transport, particularly in major urban centers of over 500,000 population. Car ownership in Warsaw reached as high as 300 cars per 1,000 population in 1991, almost approaching to the level of western countries. Other major cities have been chasing the car ownership of Warsaw.

The increasing car ownership has caused urban transport problems in various ways:

- (1) Increasing traffic on roads has caused traffic congestion in the city centers especially in peak hours;
- (2) Traffic accidents have been increasing in keeping step with the increasing traffic;
- (3) Natural and lining environment have been worsened due to the exhaust gas emission and noise;
- (4) Increasing parking on sidewalks due to lack of parking lots has caused danger and inconvenience to pedestrians;
- (5) Operating efficiency of urban public transport has been deteriorating due to the traffic congestions especially in peak hours; and
- (6) Commuters have been shifting from urban public transport to private cars in accordance with the increasing car ownership. This would be one of the reasons for the decrease of passengers on urban public transport.

The above phenomena that Polish major cities are facing are common to almost all the cities in the world in the motorization era. However, there seems to be some advantages in Polish cities in that:

- (1) Most of Polish major cities are smaller in size and have a lower population density relative to the cities in many western countries;
- (2) Most of Polish major cities have well developed (not necessarily convenient) urban public transport including buses and trams; and
- (3) The level of motorization is still moderate.

These advantages ensure that most of Polish major cities still have enough room to cope with the urban transport problems by introducing appropriate policy measures.

However, the existing urban transport administration system needs to be thoroughly reviewed and revised to take the above advantages. The existing system seems to have the following serious defects succeeded from the past:

- (1) Implementation Issues: There are a lot of urban transport projects which were commenced many years ago but have not been completed as yet. Examples are Warsaw Metro and Poznan Light Rail Transit LRT. These projects, which were started without sound economic and financial analyses during the old regime, freeze a huge amount of capital and need substantial amount of additional capital to be completed in the future. But, no funds are available at the moment.
- (2) Attitudinal Issues: The attitude that expects for radical and high standard solutions seems to be still prevailing. This attitude discourages steady and practical approaches seeking for less capital intensive solutions, including traffic control, parking pricing, law enforcement and improvement of existing urban transport services by buses and trams. Consequently only time elapses with no introduction of improvement measures.

- (3) Institutional Issues: Local governments are currently responsible for urban transport without active support of the central government. However, local governments have a serious lack of funds and staff in terms of quantity and competence. Lack of coordination among agencies involved in urban planning and transport constitutes another institutional issue.
- (4) Management and Operational Issues: Urban transport enterprises are managed and operated in a similar way as in the old regime under protection of government subsidies. No conspicuous improvement efforts have been introduced to enhance productivity and services although fares have repeatedly been raised.

4.6.2 Warsaw Urban Transport

Warsaw's urban transport system needs urgent improvement in view of the following:

- (1) Measures to cope with the rapidly increasing vehicle traffic:

The car ownership rate in Warsaw reached about 300 cars per 1,000 population in 1991. Traffic congestions have gradually been intensifying in the center of the city as well as at traffic bottlenecks including those caused by Warsaw Metro construction works.

Traffic control is worse than ten years ago. Traffic counts were stopped and signal timing is not adjusted to changing traffic conditions. Priority of public transport has seldom been introduced. Car parking in the center of the city has been abandoned. Law enforcement is weak.

- (2) Decisions on Warsaw Metro Construction Project whether to proceed or discontinue:

The Warsaw Metro Construction Project was started in 1983 but it needs a couple of years to complete. A huge amount of capital was thrown into the project and further addition is needed to complete it in the coming years.

This concentrated budget allocation to the project has resulted in scarce fund availability to other projects and programs which are important for improvement of Warsaw's urban transport. This is a cause of exacerbating present urban transport problems. Financial and economic review on the project is urgently needed.

- (3) Measures to improve public transport services:

Public transport plays an important role in urban transport, carrying 80% of passengers. However, service quality as well as operational efficiency have not been improved until now. Warsaw Transport Company (MZK) monopolizes bus and tram services under government regulations and subsidies as used to be in the old regime.

MZK urgently needs to reduce redundant employment to improve productivity. However, the management has not been able to introduce radical reforms of employment reduction as well as demonopolization and privatization.

- (4) Measures to improve and develop transport infrastructure including bridges over the Wisla River and bypasses:

Improvement and development of transport infrastructure in Warsaw has been retarded for a long time. Additional bridges over the Wisla River are needed to provide better connection between both sides to comply with the expanding urban activities and distribution of residential areas.

Intrusion of through traffic into the center of the city has exacerbated traffic congestions. This situation will be furthered in the future as urban functions are/will be concentrated in Warsaw. The viability of bypass construction around the city should be studied.

- (5) Measures to improve the government organization involved in Warsaw urban transport:

There are many government agencies involved in Warsaw's urban transport, including:

- (a) Warsaw Voivodship responsible for roads and traffic;
- (b) City of Warsaw responsible for urban public transport services;
- (c) Warsaw Transport Council responsible for inter-agency coordination;
- (d) General Directorate of Construction of the Metro; and
- (e) Ministry of Transport and Maritime Economy.

Scope and responsibilities of these agencies are fragmented and there is no agency actually working from an integrated transportational point of view.

**CHAPTER 5 PROBLEM STRUCTURE OF
THE TRANSPORT SECTOR**

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5.1 Summary of the Issues

This section summarizes the major issues discussed in the preceding chapters. The issues are classified into three groups: (1) general issues and constraints; (2) general issues of the transport sector; and (3) main issues of each mode of transport including railways, roads and road transport, ports, inland water, and air transport.

5.1.1 General Issues and Constraints

The Economic Transformation Program (ETP) introduced at the beginning of 1990 addresses:

- (1) Stabilization
 - (a) Reduction of demand and strengthening financial discipline
 - (b) Implementation of a monetary policy
 - (c) Use of the exchange rate and wages to break the momentum of inflation
- (2) Structural Reform
 - (a) Enterprise restructuring, privatization, and private sector development
 - (b) Financial reform
 - (c) A social safety net to mitigate dislocations and ease transition
- (3) Sharp cut of the State Budget

Based on the aim of the ETP, a great number of reforms have been introduced in a short period of time to restructure the centrally controlled system to a market based one. Due to the drastic reform and the resultant economic recession, various kinds of issues have arisen in the transition period. Their main reasons can be enumerated as follows:

- (1) conflicts caused by a sudden introduction of market principles with the traditional centrally controlled system;
- (2) necessity of drastically reforming international ties, away from the former CMEA countries to the western countries;
- (3) unpreparedness of legal and institutional adjustments to a market economy, ownership change and privatization;
- (4) legacies inherited from the old regime, people's dependency on the state and concentrated decision making system; and
- (5) shortage of financial resources resulting from the weak tax basis and increasing expenditures.

On top of the above issues related to the economic transformation, there are other kinds of issues in relation with the environmental protection and the Polish integration into the European Community (EC). Poland needs to introduce measures to reduce emission of

pollutants at the earliest possible time. Poland, as an associate-member of the EC, also needs to prepare for full integration with the EC including restructuring of legal institutions and economic systems and development of transport infrastructure in a long term perspective.

As is well aware, it would take a long time to solve these problems which have complicated inter-relations each other and will need substantial amount of costs. Due to the complexity of the problem, there are various opinions on the way how to improve the difficult situation. This lack of national consensus might lead to a prolonged process of the transformation. Hopefully, policy discussions now under way can be formulated into a staged policy program which would periodically be revised to reflect the actual progress of the ETP, environmental protection and Polish integration into the EC.

5.1.2 General Issues of the Transport Sector

As discussed in Chapter 3, a number of new laws and amendments have been introduced to the transport sector with a view to accelerating privatization and deregulation in keeping pace with the ETP. The transport sector including railways, roads and road transport, ports and air transport have undergone drastic institutional changes. These institutional changes, coupled with the rapid changes of transport demand due to motorization in recent years, inevitably induce the role of the MTME to change.

Major changes introduced to each mode of transport are, for example,:

(1) Railways

- * sharp decrease of passenger and cargo transport
- * decline of state subsidies
- * separation of non-transport enterprises
- * initial steps taken to rationalize inefficiencies
- * many proposals for PKP restructuring

(2) Roads

- * accelerating motorization
- * sharp decline of road budget
- * intensifying bottlenecks at border crossings
- * reorganization of GDDP and privatization of its state enterprises

(3) Road Transport

- * market deregulation
- * privatization of PKS
- * keen and in some cases unfair competition

(4) Ports

- * demonopolization and privatization of port business
- * no effective competition

(5) Air Transport

- * privatization and deregulation of air transport
- * financial difficulties of LOT
- * reorganization of PPL
- * local and private initiative to develop airports

As shown above, the legal and institutional frameworks for each mode of transport have been changed and adjusted toward a market economy. However, conspicuous changes have not been introduced to the MTME to cope with these changes, only its legal framework has been modified to this end. There should be a great change of roles and functions that the MTME should play in the transport sector.

In the former regime, the major role of the MTME was to relay the planning parameters fixed by the Central Planning Office to the transport state enterprises which were responsible for realizing the planning parameters. However, as these mechanisms are non-existent by now, the MTME should be fully involved in growing a sound competitive market through appropriate policy measures to monitor and guide the market.

Public transport fares could not immediately be liberalized because of the subsidized fare system adopted for a long time in the history. Fare levels need to be decided by taking account of the competition with private cars, people's affordability to pay and financial needs of transport companies. Unfair competition including monopolistic and cream skimming practices should be eliminated from the market by carefully watching the market. Investments in transport infrastructure need to be thoroughly evaluated based on the market demand on an inter-modal as well as project by project basis. A staged program for Polish integration into the EC needs to be developed in parallel with the ongoing restructuring of the transport sector.

Policy measures to be adopted by the MTME would inevitably involve trade-off relations between measures. Thus, the new roles and functions expected on the MTME are more complicated and difficult than those in the old regime. The MTME in the new regime is expected to: (1) carefully monitor the market environment including information gathering; (2) formulate transport policies and plans to improve short, medium and long term issues identified by the monitoring; and (3) introduce regulatory and/or deregulatory measures to adjust the transport market. The existing organization of the MTME likely needs refurbishment to comply with new requirements.

Another important issue to be solved would be the relationship between the central and local governments in terms of planning, budgeting, construction and maintenance of infrastructure, registration of public transport services, etc. Administrative capability of local governments are generally low and financial resources are limited. New mechanisms need to be introduced to improve the situation.

5.1.3 Main Issues of Each Mode of Transport

1) Railways

Railways used to be the most important means of transport for passengers and cargoes. However, due to the progressing motorization, the role of railways has been declining, coupled with the influence of sluggish heavy industrial production. The main issue of the railways would be rationalization and modernization of the railway system which was enlarged during the centrally controlled regime both in terms of assets and employment.

Worldwide experiences indicate that railways are not competitive with road transport except for a limited number of market segments such as high speed inter-city passenger services, high speed container transport services, bulky cargo transport and commuter transport services in large urban agglomerations. The enlarged railway system needs to be rationalized in this context. In addition, the severe financial conditions of the country forced to reduce the state subsidies to PKP. This will necessitate accelerated streamlining of PKP.

At the same time, however, PKP needs modernization to adjust itself to the changing international circumstances. For the Polish integration with the EC railway system, some of the internationally important lines need to be upgraded to comply with the future introduction of high speed international passenger trains and international combined transport. Reliable economic and financial studies are required to identify and prioritize important projects in this regard.

With a view to facilitating the above rationalization and modernization, attention should be addressed to the present management of PKP. First of all, a reliable cost accounting system needs to be established to properly identify the profit and loss centers in PKP. Once they are identified, PKP needs to make decisions on the market segments where PKP's resources should be poured or withdrawn. In accordance with the decision making, the present redundant employment needs to be curtailed in a long term perspective and the remaining employment need to be relocated to prospective businesses with proper retraining provided. Roles and functions of the "Strategic Planning Unit" established in April 1992 should be further strengthened to delineate the future business policy of PKP.

By the time of Polish integration with the EC, the relationship between the state and PKP needs to be clearly defined to comply with the EC Directives of July 1991. However, this action will be preceded by the rationalization of PKP.

2) Roads and Road Transport

In accordance with the increasing car ownership and internationalization of Poland, road traffic has steadily been increasing in recent years, particularly commuter traffic in large urban agglomerations and international traffic on the western borders. However, budget allocation to roads has shown a constant declining trend since 1986. This has entailed a substantial backlog of road maintenance, not to mention new investments and improvements to upgrade the quality standard of internationally important road sections.

Emphasis should be placed on the development of a road financing system to ensure the steady maintenance and improvement of the existing road network for the future. Due to the repeated rise of road user charges and the declining budget allocation to roads, annual revenue from road user charges is estimated to exceed government expenditures on roads. Special funds earmarked for roads need to be developed.

Road transport is expected to play a great role in international cargo transport for Poland because truck transport of the EC countries shares a large part of international cargo transport in the European Community partly due to the flexibility of trucks and partly due to the under-development of international railway cargo transport system. Improvement of the western border crossings and development of the east-west motorways would be urgent issues for Poland to tackle.

The road cargo transport market has been completely deregulated and the former state enterprise PKS has been divided and partially privatized. Most of the PKS companies are in danger of bankruptcy because of their weak competitiveness with private companies. Through the competition, inefficient companies will be weeded out of the market. This would be an inevitable path for efficiency improvement of the trucking industry. Trucks engaging in the international transport reportedly have cleared the EC norms of exhaust gas emission and noise. It is reported that the only issue to be solved is the harmonization of Polish drivers' working conditions with those of the EC countries.

PKS companies carry most of the road passengers. They receive subsidies from local governments to compensate regulated operations in terms of fares, routes and

schedules. It is reported that private owner-operators take advantage by running their buses several minutes before the departure of public buses. This type of unfair competition should be strictly watched and prohibited.

3) Ports

Restructuring of port authorities took a form of commercialization and then turned to privatization. Port operations have been demonopolized including cargo handling, stevedoring and pilotage. However, true competition has not been effectuated because no company has tried to participate in port operation business in any ports other than their mother port. Efficiency improvement through actual competition needs to be sought for enhancing international competitiveness of the Polish ports.

This is particularly true for container transport which is a mainline of international logistics. Polish ports have been facing keen competition with roads and railways between Polish major cities and such international major ports as Hamburg and Rotterdam. If the Polish ports are not successful in competing with land transport, their future will be extremely gloomy. This situation should be avoided not only from the aspect of transport economy, but also from the aspect of regional economy. This is because port operation includes a variety of business activities which contributed greatly to the regional economy.

4) Inland Water Transport

Inland water transport has been playing a minimal role in Poland and its maintenance has long been neglected. The major rivers Odra and Wisla are interrupted into short sections of navigable channels. Therefore, inland water transport is only locally used for transporting such bulky cargoes as sand and gravel, coal and stone over an average distance of less than 100 kilometers. Under these conditions, there would be no particular necessity to encourage inland water transport unless special requirements should occur in the long future.

5) Air Transport

Since the introduction of the ETP, the air transport sector has experienced a drastic reform, particularly of PPL and LOT. The most important issue in the reforming process is a lack of government initiative mainly due to the abrupt introduction of privatization and the shortage of financial resources.

The organization of PPL has been reformed to comprise two the profit centers of "Warsaw International Airport" and "Air Traffic Control", and one likely unprofitable center of "Other Airports". The roles and functions of "Other Airports" are very important in the long run to encourage economic development of the regions through direct international communications with foreign countries although the urgency differs from airport to airport. Measures to maintain these airports based on detailed studies should be sought including cross subvention from the profit centers of "Warsaw International Airport" and "Air Traffic Control".

LOT has strenuously been replacing the Soviet made aircraft by western makes. This modernization seems to be a reasonable measure to improve the competitiveness of LOT. However, it is quite uncertain, under the present circumstances, that their decision to throw these aircraft into domestic services would produce enough return for the investment.

The role of GICA in air transport administration is quite obscure because PPL and LOT directly report to the under-secretary of the MTME which has no unit working especially for air transport. This seems to be a reason why the air transport sector has been chaotic in terms of airport policy and financial policy for LOT.

5.2 Specific Features of the Polish Transport Sector

5.2.1 Comparison with Other Countries

Economic growth of the countries in a market economy has usually been accompanied with a steady decline of the agriculture sector (e.g. from 50% to 10% of GDP) and a steady increase of the industry sector (e.g. from 10% to 30% of GDP) as well as services sector. During the growth period, cargo transport demand increased almost in proportion to the economic growth.

The car ownership rate increased in compliance with an increase of per capita income, a rapid increase occurring at the level of or above US\$1,000 per year per person. The surge of car ownership is dependent not only on per capita income but also on personal strong preference for private modes of transport. Owing to these factors, vehicular traffic tended to increase year after year. The following problems were almost common to every developed country:

- (1) A huge amount of road investment was required to accommodate the increasing vehicular traffic. Road development and improvement have always lagged behind the requirements;
- (2) Traffic increases were particularly pronounced in urban areas where industrial and business activities were concentrated and many people of higher income brackets resided; and
- (3) Negative externalities caused by the increased traffic became apparent in terms of: (a) traffic congestions; (b) shortage of parking space; (c) deteriorated living environment due to exhaust gas emission and noise; and (d) traffic accidents.

In reverse proportion to the increase in vehicular traffic, the railway share decreased both in passenger and cargo transport. In the case of Japan, the share of railways in passenger transport declined from 75.8% in 1960 to 37.1% in 1987 in terms of passenger kilometers. In cargo transport it declined from 39.2% to 4.6% in the same period in terms of ton kilometers. In Germany, the share of railway in passenger transport declined from 15.7% in 1960 to 6.1% in 1987 while in cargo transport, it declined from 37.4% to 22.6%. The railway decline was first noticed in short distance services and then gradually extended to longer distance services.

A variety of transport policies to resist the trend of increasing automobile traffic and decreasing railway transport were introduced in most of the countries. Typical policies were:

- (1) Introduction of an equal footing principle between railways and roads in which, in general, the public sector is responsible for infrastructure and private sector is for operation;
- (2) User fees and taxes are imposed on road users to charge them with the full cost of road development and maintenance;

- (3) Restriction of vehicular traffic in central business districts by imposing entrance charges and time restrictions as well as prohibition of parking along streets and obliging parking space in newly constructed buildings; and
- (4) Control on exhaust gas emission by setting the maximum content of pollutants, establishing inspection and monitoring system, and by imposing penalties for violations.

In comparison with the above experiences of other countries, Poland seems to have a different type of experience through the centrally controlled system as can be exemplified below:

- (1) The share of the industry sector in GDP was as high as 50% while the agriculture sector was only 12% (low share of services sector);
- (2) Industrial production was strongly biased toward heavy industry with less importance on consumer goods (focus on bulk cargo transport);
- (3) Coal accounted for more than 90% of primary energy production (small share of oil transport);
- (4) The car ownership rate per thousand population was 137 in 1990 which was equal to 31% of Japan and 26% of the former West Germany (potential for higher car ownership);
- (5) The share of railways in passenger transport was as high as 42% in terms of passenger-kilometers while in cargo transport, it was as high as 63% in terms of ton-kilometers (high dependence on railway transport); and
- (6) The Polish Railway Company (PKP) had substantially been subsidized (political support for railways).

5.2.2 Influence of Polish Geographic Conditions on Transport

Poland covers an area of 312,683 square kilometers. The shape of the country is like a rectangle with an east-west distance of about 600 kilometers and a north-south distance of about 500 kilometers. More than 90% of the land is flat. The population of 38 million persons in 1990 lived mostly on the flat land. The average population density was 123 persons per square kilometer, or about half of former West Germany. The biggest city is Warsaw with a population of 1.7 million person which accounted for about 4.5% of the national population. There were six (6) other major cities and urban agglomerations of more than 500 thousand population including Lodz, Krakow, Wroclaw, Poznan, Katowice (agglomeration) and Gdansk (agglomeration).

The geographic and demographic conditions of the country suggest that air transport will have a limited role in domestic passenger transport because of the relative short distance (300 - 500 km) from the capital city to other major cities. For this distance, railway and road transport usually have advantage over air transport because of shorter door to door travelling hours at lower fares. Domestic air transport services can be prospective in connecting major cities with the areas of limited land transport network, instead of major traffic corridors where railways and road are well developed.

In addition to the relatively short distance from the capital city to every part of the country, the small population in major cities and the low population density (123 persons/km²) may indicate that transport demand for railways, in general terms, can not be large enough to make railway services profitable. It is likely that if free market

forces prevail and specific measures are not introduced, the share of railway transport will constantly be decreasing both in terms of passenger and cargo transport.

The existing railway network is considered too extensive from the above point of view. This is because a large part of the railways was developed during the latter half of the 19th and the beginning of the 20th century when vehicle traffic had not been developed. Therefore, it would be necessary to review the whole railway network to identify important main lines for concentrated improvement by taking account of the possible competition with other modes of transport. This enlarged railway system absorbed a large number of employees in PKP. Redundant employment should be reduced. For this purpose, PKP introduced an employment reduction scheme in 1990.

The geographic condition of the country suggests that the role of road transport will be furthered in the future in keeping step with the development of motorways and modernization of road transport services. According to the experiences of foreign countries, the average transport distance by trucks are lengthened if particular government regulations are introduced. Similarly, passengers have shifted from public transport to private car transport in accordance with the increasing car ownership.

Another important characteristic of Poland is that the country is located at an international crossroad of east-west and north-south traffic. The travel distance of international traffic is generally far longer than that of the domestic traffic. It is likely that air and railway transport will be able to find their advantages in international transport market rather than in the domestic market.

Air transport will be able to find a promising market of international regional air services which link domestic airports with main cities in surrounding countries. Domestic and international distinctions need to be lowered or abolished to take this locational advantage. Railway transport will also be able to find a promising international market if necessary measures are taken, including efficient border crossings, unified standards and procedures, improved communication systems, and higher and safer transport services. The role of road transport in the international market will also be furthered especially in encouraging economic ties between the local cities on both sides of the border.

Geographic characteristics of Poland as discussed in the above should be well taken into account in developing a national transport plan.

5.3 Problem Structure of the Polish Transport Sector

As illustrated in Fig. 5.3.1, problems of the Polish transport sector can be defined as follows:

- (1) Legacies succeeded from the centrally controlled system;
- (2) Transition from the centrally controlled system to a market economy;
- (3) International integration especially with the EC; and
- (4) Financial constraints.

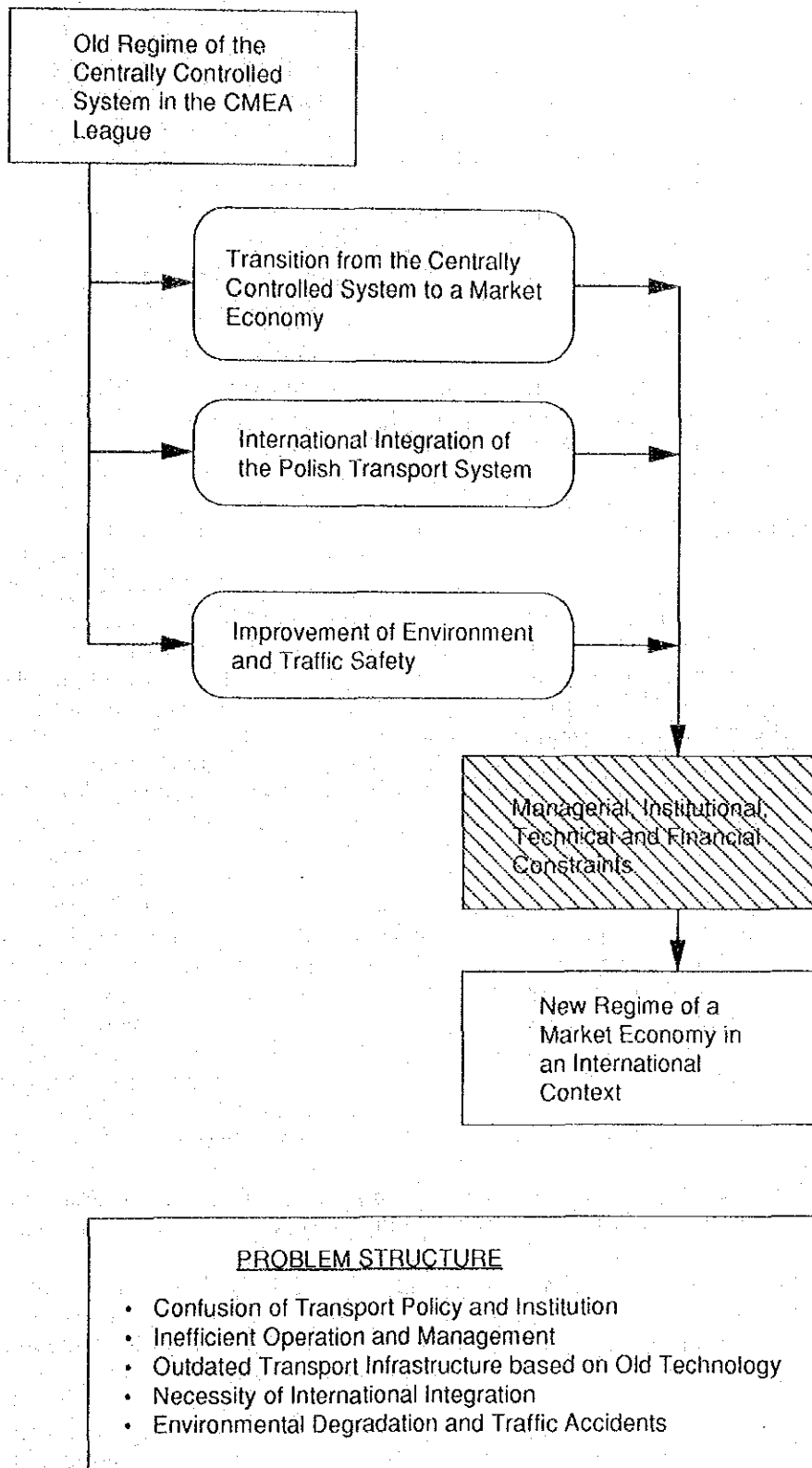


Fig. 5.3.1 Problem Structure in the Transition from Centrally Planned to Free Market Economic System

5.3.1 Legacies Succeeded from the Centrally Controlled System

A conspicuous characteristic of the centrally controlled system lies in the fact that resource allocation is decided by the national production and consumption program on a basis of the assets owned by the state. Goods and services are produced based on the programmed supply of input at a given technological standard. Prices of goods and services are predetermined by the government, functioning just as a means for settling transactions without any particular contribution to resource allocation as in a market economy. There seems to be no specific built-in mechanism to adjust possible discrepancies between production and consumption. Facilities, machines and labor necessary for incremental production are supplied by the government to comply with the program.

As a component of the national economic system, transport industries, which were composed of state owned enterprises, were centrally controlled by the government as well. Major legacies succeeded from the centrally controlled system in the transport sector seem to be in: (1) distorted prices; (2) lack of efficiency; (3) habitual dependence on the state; (4) shortage of inter-modal as well as inter-regional coordination; and (5) rigid regulation of transport services.

Due to the nature of the centrally controlled system, prices were distorted from the prevailing international prices with some prices highly subsidized. This price distortion seems to be a serious obstacle to the transition to a market economy. Curtailment of subsidy to a basic commodity, for example, triggers a chain reaction of price hikes in other commodities. The high inflation rates caused in this way discourage private investments, resulting in a stagnated economic activities (including the transport sector). Passenger fares of railway and bus transport were subsidized internally and externally to keep them at lower level for the sake of public welfare. Adjustments of these fares to recoup the costs, however, tend to be opposed by the public, possibly resulting in a continued subsidies for years to come.

In developing the transport system in the old regime, a focus was placed mostly on the quantitative enlargement with less attention to efficiency improvement. This is due to the central planning system which chose a given technological standard as well as social requirements to minimize unemployment. Cost accounting systems were rather neglected because gross balance of revenue and expenditure was a main concern for the government, nor did it directly influence tax or subsidy structure. In the transition to a market economy, it is urgent that an effective cost accounting system be developed which identifies the exact reasons for profits and losses which, in turn, are the yardstick by which to measure the responsiveness market conditions.

The central planning system and subsidies by the state have fostered a habitual dependence by organizations and the public on the state. Policy decision making was done at the top level of the government and decisions were passed to the lower level just for implementation without any requirements for decision making at lower level. They contributed to a lack of efficiency and initiative, which, in turn, constitute additional obstacles to the transition to a market economy where independent decision making based on market information is a vital factor survive competition.

Inter-modal as well as inter-regional coordination was unsatisfactory mainly due to political judgments and a lack of scientific criteria for evaluating investments. A large number of projects proposed by modes or regions from a technical point of view were commenced without guarantees that they would ever be completed. In a market economy, more importance needs to be placed on economic and financial aspects of investments than on technical merit.

Transport state enterprises were operated under a rigidly controlled framework with all properties owned by the state. They were free from a risk of bankruptcy. Their interest, therefore, was directed to the state instead of the market. On the other hand, the state was only familiar with controlling these limited number of enterprises. In a market economy, the situation will gravitate to the opposite direction, with deregulation and liberalization being commonly accepted principles. It is likely that this dramatic transformation will cause considerable problems both to the state and transport enterprises.

5.3.2 Transition in a Market Economy

A market economy is an economic system in which decisions about the allocation of resources are made on the basis of prices generated by a chain of market exchanges. Thus, market forces are defined as the interaction between supply and demand, which, in turn, induces adjustments of prices and traded quantities. The transition from the centrally controlled system to a market economy means that these economic rules must be applied to the transport sector despite its historic role as a quasi-public service. Major problems associated with this transition will include: (1) drastic transition in a short period of time; (2) decision making based on market demand; (3) reallocation of resources to comply with demand; and (4) development of a framework for effective competition.

Transport policies of the industrialized western countries have gone through several stages economic evolution. Messrs. K.J. Button and D. Gillingwater in "Future Transport Policy" state that the development process of transport policy is categorized into four stages: (1) era of railways; (2) era of protection; (3) era of administrative planning; and (4) era of contestability. Most of the industrialized countries are now in the era of contestability where the government role in the transport market is to define a framework for encouraging efficient performance of transport industries.

The Polish transport sector is, difficult to categorize as it is in transition from the era of protection to the era of administrative planning. Experiences of the industrialized countries, however, suggest that the transport policy of contestability needs to be introduced for attaining higher efficiency. This skips one of the stages, coupled with the transition from the centrally controlled system to a market economy, will make the transformation of the transport sector more complicated and difficult.

The transition to a market economy implies that the government will no longer control cargoes which the transport enterprises should carry. This will be decided internally based on market research. The present transport market is full of great uncertainty due to this transition as well as in the rapidly changing international environment. Managers of transport enterprises should become familiar with the business practices applied in a market economy including marketing, production, business administration, management training, and investment decision making.

The government, on the other hand, needs to develop a mechanism for allocating resources to satisfy market demand. For this purpose, existing statistics should be reorganized to collect overall transport information including private transport activities. Project evaluation methods acceptable to the international community should be developed in place of the traditional techniques both in economic and financial terms. It is likely that emphasis needs be placed on the movement of resources from the railway to the road sector.

The government further needs to develop a framework that facilitate privatization and encourages effective competition in the transport market. PKS companies have been privatized but many of them are in financial crisis due to keen competition from private truckers. Various stock holding companies have emerged in port related business but there is no actual competition to improve efficiency. The non-transport enterprises under PKP were separated from PKP at the end of 1991, but they are now still under the Ministry of Transport and Maritime Economy umbrella. The government first needs to clarify guidelines which prepare state enterprises for the privatization through management rationalization. Second, the government needs to develop a system which support business activities of private companies in legal, economic and social terms.

5.3.3 International Integration

Poland's international environment has drastically changed in recent years due to collapse of the CMEA, independence of the Baltic countries, accelerating emergence of the European Community, and splintering of the Soviet Union into independent republics. The former linking of the Polish economy with those of CMEA members was ended and new integration into the EC economy is expected to take place. In a long term perspective, economic ties might be further strengthened with the Baltic countries and newly emerged republics to the east. It is likely that the East- West and North-South transactions across Polish territory will stimulate future economic activities in Poland.

The transport system of Poland need to be developed in the context of the international transport systems to take advantage of the nation's strategic geographic location. A priority should be given to the integration of the Polish transport system into the EC transport system so as to support strengthening of economic interaction as well as inviting more European citizens to visit Poland (including tourists). There seems, however, to be a variety of issues and technical gaps which must be resolved prior to attaining full integration into the EC system. A program for addressing these issues will be required.

5.3.4 Financial Constraints

The various problems mentioned in relation to the legacies succeeded from the old regime, transition to a market economy, and necessity of international integration will likely require a variety of investments. It is, however, anticipated that financial resources available to the transport sector will be rather limited in the foreseeable future partly due to the accumulated external debt and partly due to limitations in the domestic revenue base.

From a national financial point of view, it would be imperative to re-allocate funds from a transport sub-sector of declining demand to another of increasing demand, from railway to road in particular. Rationalization of railways is very important in this aspect to cope with the increasing role of other transport sub-sectors. On the other hand, however, efforts to increase the revenue base should be sought by means of introducing a user pay principle, private participation in infrastructure development, and tolled motorways, among others.

The limited availability of funds necessitates strict investigation of project viability, completion of projects according to schedule, and appropriate operation, maintenance and monitoring after opening of the project.

5.3.5 Implications for Preparing the National Transport Plan

- (1) Restructuring of the Polish transport sector seems to be a complicated and difficult task because of the involvement of political decision making.
- (2) Improvement of efficiency of the transport sector will largely be dependent on the removal of the legacies succeeded from the centrally controlled system. It will take some time to eliminate price distortions fostered by the old regime and establish efficiencies required in a market economy.
- (3) The Economic Transformation Program (ETP) introduced since January 1990 needs to be elaborated in the transport sector to make the programs of privatization and deregulation effective in improving efficiency through competition.
- (4) Integration of the Polish transport system into the international transport system, the EC transport system in particular, is important to revitalize the Polish economy in an international context. A phased development program need to be prepared which gradually meets EC standards and copes with the uncertain development of the Eastern republics.
- (5) Re-allocation of resources is important given the limited availability of funds under the present conditions. Rationalization of existing transport systems as well as expansion of revenue bases are necessary.
- (6) The role of the government is critical in guiding the transition from the old regime to a market economy, particularly so in the transport sector which offers quasi-public services to the public.

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