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# Republic of Ukraine Transport Sector Review

(In Three Volumes) Volume II: Technical Report

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Infrastructure Unit  
Europe and Central Asia  
World Bank

Expertise Services  
DGI  
European Commission



## CURRENCY UNITS and EQUIVALENTS

US\$1 = Hrv 2.0  
1Hrv = 100 Kopeck  
US\$1 = USc 100

## WEIGHTS, MEASURES and OTHER UNITS

Bln Billion  
Inh Inhabitant  
Kg Kilogram  
Km Kilometer  
Mln Million  
Pass Passenger  
pkm Passenger kilometer  
sq km, km<sup>2</sup> Square kilometer  
T Ton (metric, 1,000 kg)  
Th Thousand  
tkm ton kilometer  
Toe Ton oil equivalent  
Vpd Vehicles per day

## CONVERSION FACTORS

1 mile = 1.609 meters  
1 kg = 2.205 lbs  
1 US gallon = 3.785 liters  
1 sq km = 0.386 square miles

## CHEMICAL COMPOUNDS

C<sub>x</sub>H<sub>y</sub>, HC Hydrocarbons  
CO Carbon Monoxide  
CO<sub>2</sub> Carbon Dioxide  
NO<sub>x</sub> Nitrogen Oxides  
SO<sub>2</sub> Sulfur Dioxide

## FISCAL YEAR

January 1 - December 31

Vice President:	Johannes Linn, ECAVP
Country Director:	Paul Siegelbaum, ECC11
Infrastructure Director	Ricardo Halperin, ECSIN
Sector Leader	Eva Molnar, ECSIN
Task Team Leader:	Pedro Taborga, ECSIN

## GLOSSARY OF ACRONYMS AND ABBREVIATIONS

ADW	Average Dead Weight
ATC	Air Traffic Control
BOT	Build Operate & Transfer
CAA	Civil Aviation Administration
CEFTA	Central European Free Trade Agreement
CIF	Cost-Insurance-Freight
CIS	Commonwealth of Independent States
CMEA	Council for Mutual Economic Assistance
COTIF	Bern Convention of May 9, 1980
EBRD	European Bank for Reconstruction and Development
ECAC	European Civil Aviation Conference
EDI	Electronic Data Interchanges
EDP	Electronic Data Processing
EFF	Extended Fund Facility
EIA	Environmental Impact Assessment
EU	European Union
FIATA	Fédération Internationale des Associations des Transitaires et Assimilés (International Federation of Freight Forwarders and Related Services)
FOB	Free-On-Board
FSU	Former Soviet Union
GAAP	Generally Accepted Accounting Principles
GATT	General Agreement on Tariffs and Trade
GDI	Gross Domestic Investment
GDP	Gross Domestic Product
GNP	Gross National Product
IATA	International Air Transport Association
IAS	International Accounting Standards
ICAO	International Civil Aviation Organization
IMF	International Monetary Fund
IRI	International Roughness Index
MOT	Ministry of Transport
NBU	National Bank of Ukraine
OECD	Organization for Economic Cooperation and Development
PA	Per Annum
PIP	Public Investment Plan
SAC	Structural Adjustment Credit
SGS	Societe Generale De Surveillance
SMGS	USSR Rail Waybill
SOE	State Organizations and Enterprises
TACIS	Technical Assistance for Commonwealth of Independent States
TIR	International Road Transport
UZ	Ukrzaliznytsia (Railway Administration)
VAT	Value Added Tax
WTO	World Trade Organization

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The Ministry of Transport and the *Ukrainian National Agency for Development and Investment* were the main counterparts of the mission on the Ukrainian side. The study has relied heavily on official sources of information and statistics as well as interviews and meetings with Government ministries and agencies. It also draws on on-going World Bank and IMF work on the macro-economic conditions of the country, other sector work, studies supported by EU, EU-TACIS and EBRD, cross country comparisons and other sector benchmarks. The mission gratefully acknowledges the suggestions received from Ms. Jann Masterson and Mr. Mark Davis, and the final updating of the report by Ms. Shobha Subramanian.

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# UKRAINE

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**UKRAINE**  
**TRANSPORT SECTOR REVIEW**

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## 1. INTRODUCTION



### A. Purpose of the Study

1.1 This study has been carried out with the financial support of EU-Expertise Service as a direct response to the Government's request to develop a program of assistance in support of a comprehensive transport strategy, with emphasis on the following objectives:

- (a) identifying key policy reform;
- (b) reviewing and accelerating the privatization program in the sector; and
- (c) formulating action plans for restructuring railways, managing road infrastructure, reorganizing civil aviation, maritime, river and urban transport.

1.2 In addition to meeting the above objectives, the study identifies the level of financially sustainable expenditures suitable for inclusion in a Government Public Investment Plan (PIP) and eventual discussion with other donors.

## B. Organization of the Study

1.3 The study is presented as follows: a policy note, this technical report in 12 chapters, its annexes and statistical appendices. The chapters of this technical report are as follow:

1.4 **Transport and Economic Stabilization.** Chapter 2 gives a summary description of Ukraine's economic situation, trade patterns, followed by a discussion on the role of the transport sector and its potential large contribution to economic recovery and growth acceleration. The potential of transport as an internationally traded service, implications of facilitation measures on the balance of payments are also outlined.

1.5 **Main Issues and Need for Stabilization, Modernization and Development.** Chapter 3 gives an overview of issues that affect the provision of transport services in Ukraine and describes the enabling environment needed to stabilize, modernize and develop transport services. The current situation of the transport sector, its cost recovery performance, lack of resource mobilization and lack of investment plans are highlighted, and the potential for transport and trade facilitation explored.

1.6 **Transport Demand and Future Scenarios.** In Chapter 4, the past and future transport demand of Ukraine is analyzed and explored. Particular attention is given to possible growth and trade development scenarios depending on the degree of regional economic cooperation and pace of reform in Ukraine.

1.7 **New Role of the Government.** Chapter 5 reviews the role of the Government and presents the main guiding principles of a successful restructuring of the Ministry of Transport and its related agencies. Restructuring the Ministry of Transport is a prerequisite to a successful reform process and is under active consideration by the Ukrainians.

1.8 **Transport and Trade Facilitation.** Chapter 6 addresses the barriers to transport and trade, the US\$2.8 billion excess costs they impose on the economy, and a strategy and corresponding facilitation measures required to alleviate these barriers.

1.9 **Road Sub-Sector.** Chapter 7 analyzes the current situation with an identification of major issues related to the sector and makes corresponding recommendations to address them. A special emphasis is put on road infrastructure financing to prevent a fast erosion of the existing network and on reducing unit costs to international standards. The presentation is organized as follows: (a) Road Infrastructure; (b) Road Transport Services; and (c) Urban Transport.

1.10 **Railways.** Chapter 8 presents the many issues faced by the Ukrainian railways. It gives a description of the physical condition of the railways, nature and quality of operations, current traffic and prospects, and main financial issues. It concludes by offering a strategy to reach financial sustainability in the railways.

1.11 **Maritime and River Transport.** Chapter 9 outlines the issues faced by seaports and river ports and shipping in Ukraine and proposes some alleviating measures. It describes the organizational structure under which operations are performed, the traffic evolution, the condition

of physical assets, the problem areas and corresponding recommendations, and financial performance issues. The Chapter is concluded by a strategy to reach financial sustainability.

1.12 **Civil Aviation.** Chapter 10 reviews the present situation in civil aviation, its institutional issues and organizational characteristics, priorities in fleet renewal, infrastructure and air traffic control and financial difficulties. It also discusses the potential for institutional and financial restructuring.

1.13 **Transport and Environment.** Chapter 11 covers the current situation, legislation and institutional authorities with jurisdiction over environmental and resettlement questions arising in the transport sector. It identifies the four major issues related to transport : air pollution, modal shift, transport of dangerous goods and the return of Environmental Impact Assessment. The Chapter concludes with recommendations concerning standards and norms and their future applications.

1.14 **Recommendations.** Chapter 12 gives an overview of the specific sub-sector recommendations. The chapter highlights a number of triggers for Bank or other financiers participation in transport restructuring. Under a scenario of continued economic reform recommendations are presented under the following headings:

- a) Policy Reform
- b) Transport and Trade Facilitation
- c) Sub-sectors

### C. Context

1.15 Ukraine only made a break with past economic policies in 1994, three years after independence. Since then, important stabilization, privatization and market liberalization steps have been introduced. Structural reforms, including liberalization of prices and trade, and privatization are underway and increases in exports have been recorded. Stabilization policies so far have been successful, inflation has fallen from 400% in 1994 to 45% in 1996, the exchange rate has stabilized, and a monetary reform is in place. The accomplishments to date, however remain vulnerable to slow or no economic growth, and to an unstable political climate, which continuously seems to hesitate between a government controlled economy and privatization. There are some worrisome indications such as estimates indicating that a substantial amount (about 60%) of the domestic trade is through barter.

1.16 The contraction of the economy has affected the transport sector although transport represented 12.3% of the Ukrainian GDP. The volume of transport cargo declined from 6.3 billion tons in 1990 to 1.9 billion tons in 1997. The freight turnover in billion ton/km decreased from 1,039.3 in 1990 to 185.9 in 1997.

1.17 The slow implementation of a broad and far reaching reform agenda has not yet shown noticeable gains in economic activity, although positive growth might have been experienced in 1997, which would be masked by the fact that unrecorded economic activity would represent most of that growth. Macro-economic measures, all important as they are, need to be accompanied by

reforms within each sector to have the full effect of supply responses in the transition to a market economy. Today, Ukraine's economy is midway in its transition from plan to market. Much has been done, and much is left to do.

1.18 The issues of the Transport Sector can be summarized as follows:

- (a) The existing environment prevents the development of competitive and innovative transport services. The existing environment is constrained by (i) legal and regulatory inefficiencies; state interference in Transport operations including on pricing issues; (iii) lack of cost recovery for State infrastructure; and (iv) a financial framework that prevents sound management of public infrastructure.
- (b) The pace of reform in the sector needs to match and anticipate the evolution of macro economic policies announced;
- (c) The asset base of the transport sector is eroding, and rehabilitation, maintenance and renewal backlogs are mounting.
- (d) Traffic, which has contracted sharply, is showing a modal split different from the traditional one, with a greater reliance on road transport in international trade to Europe when recovery is established; and

1.19 *The main questions needing to be addressed are: (i) sustainability of transport activities; (ii) scope for commercialization and privatization under competitive conditions; and (iii) reversal of sector de-capitalization currently underway. A self-sustaining transport sector on the basis of adequate solutions to these main questions would make a significant contribution to the government's efforts to further reduce the budget deficit, currently at about 6% of GDP.*

## 2. TRANSPORT AND ECONOMIC STABILIZATION

2.1 Upon independence on December 1, 1991, Ukraine became the second largest European country with a land area of 603,700 square kilometers. Ukraine is located on the north of the Black Sea and bordered by Poland, Slovakia, Hungary, Romania and Moldova to the west, Belarus to the north, and Russia to the north and east. With 50.4 million inhabitants, Ukraine has the fourth largest population in Europe, mostly from Ukrainian (73%) and Russian (22%) origin. The Ukrainian workforce is well educated and highly skilled. Ukraine's GDP per capita was \$1,040 in 1997.

2.2 **1990-1997 Economic Evolution.** The economy of Ukraine contracted sharply after 1991, before stabilizing in 1994. Prior to Independence, Ukraine was after Russia, the most important economic component of the former Soviet Union (FSU). By 1994, officially recorded output had fallen by more than 50 percent since 1990, inflation was still in triple digits and trade deficit widened. Policy response lagged until 1994. Administrative control of the economy remained extensive. Since 1994, changes in Ukrainian policy have enabled the country to stabilize. However this effort remains fragile.

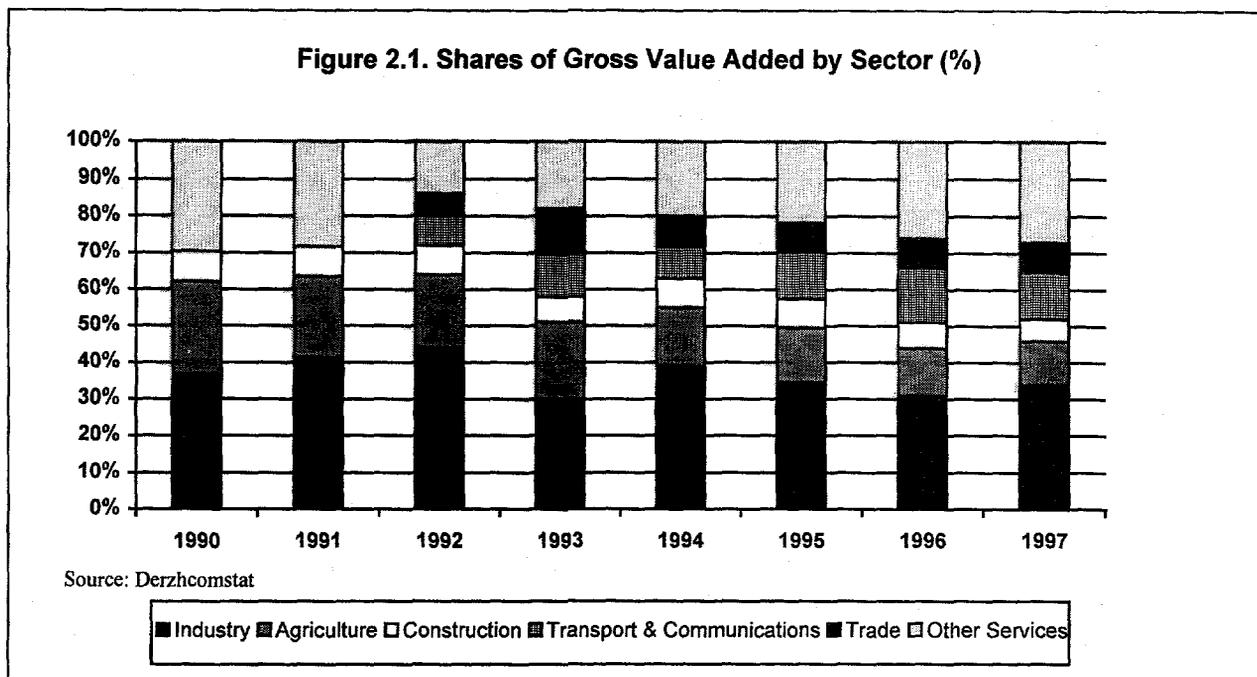
2.3 **Foreign Trade.** Trade has similarly been affected by the FSU breakup. Gross goods trade flows represent more than 70% of Ukraine's GDP. Trade broadened and shifted away from FSU markets. It mainly consists in exports of metal and imports of oil products. The industrial future of Ukraine is to be found in shifting towards greater international integration.

2.4 **Transport Support to the Economy.** The pattern of transport in Ukraine was deeply altered by the drop in FSU traffic and transformation of trade. The transport sector generated substantial economic activity and contributed significantly to reducing the current account deficit. However, this support is and will be progressively weakening unless Ukraine tackles the issues that seriously erode its competitiveness in the provision of transport services. The transport sector is not ready to provide the Just-in-Time transport services needed to integrate Ukraine's large industry into global production chains.

### A. Structure of the Economy

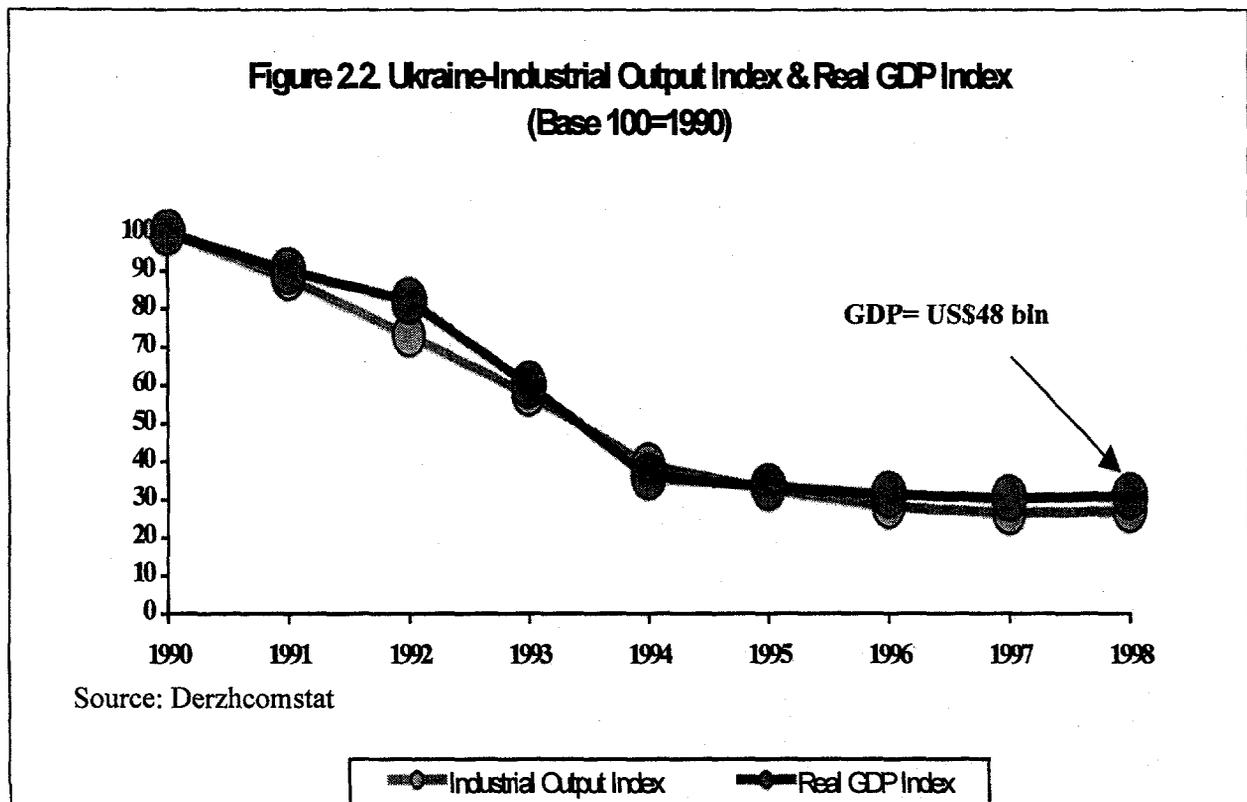
2.5 **Before Independence.** Ukraine produced about four times the output of the next-ranking republic in the FSU. Its fertile black soil generated more than one-fourth of the FSU agricultural output, and its farms provided substantial quantities of meat, milk, grain, and other vegetables to the other republics. Likewise, its diversified heavy industry supplied equipment and raw materials to industrial and mining sites in the other regions of the FSU.

**2.6 1990-1997 Structural Transformation.** The economic structure of Ukraine has been reshaped since Independence (Figure 2.1). Each sector of the economy has been affected by the break-up of the FSU, severe shocks from price adjustments to world levels, and structural reforms undertaken throughout the economy. The industry sector moved to 34 percent share of the GDP in 1997, down from an estimated 45 percent in 1992, with a predominance of steel manufacturing. The agriculture sector (which output was approximately divided by 2 between 1990 and 1997) went down to 12 percent, from an estimated 25 percent in 1990.



## B. Macro-Economic Performance

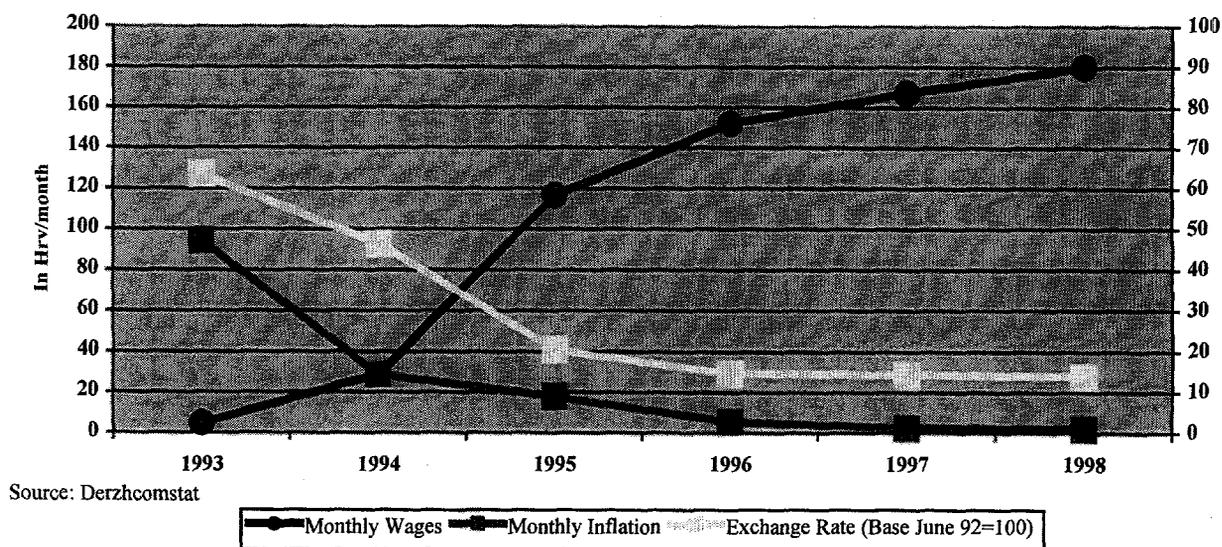
**2.7 1990-1994 Economic Contraction.** The transformation of Ukraine's economy from a centrally planned system to a market-oriented one has proven to be a daunting challenge. Policy shortcomings during the first three years of Ukraine's independence, combined with major external shocks led to macroeconomic instability and contraction of all sectors. Between 1990 and 1993 agricultural production fell 20 percent, industry contracted 45 percent, and construction declined 54 percent. Recorded unemployment remained limited, disguised unemployment became widespread, affecting 3-5 million workers. By 1994, officially recorded output had fallen by more than 50 percent since 1990 and inflation, while coming down from hyperinflationary levels, was still in triple digits. Although the fiscal deficit was reduced by 1994, the current account deficit had widened and the situation had become increasingly tenuous, i.e., the effects of a large accumulation of payment arrears (mainly on gas imports from the FSU), began deteriorating living standards and increasing poverty. By 1994, the public finance deficit exceeded 8 percent of GDP, the current account deficit was around 6 percent of GDP, the stock of external debt (including arrears) reached US\$8,219 million, and international reserves covered only 2.3 weeks worth of imports.



**2.8 Reform Program and External Support.** In October 1994, a clear break was made from past policies as Ukraine began to lay the foundation for macroeconomic stabilization and structural reforms. An IMF-supported stabilization program (through a systemic transformation facility, and three stand-by arrangements) entailed tight fiscal and monetary policies with the aim of lowering inflation to about 1 percent monthly. The World Bank has supported a wide-ranging series of measures aimed at reducing Government intervention in the economy, developing competitive markets and introducing elements for a social safety net through a Rehabilitation Loan followed by adjustment loans in enterprise, agriculture and energy sectors.

**2.9 Impact of Reform.** Significant progress was accomplished over the following four years. Inflation has been sharply reduced (to 40 percent annually in 1996 and 16 percent in 1997). The exchange rate was unified and a substantial degree of current account convertibility established; a new currency was successfully introduced. The trade regime has been liberalized. Domestic prices have been partially decontrolled, consumer subsidies partially reduced and energy prices increased to world level for non-household users. Purchasing power has been restored somewhat in the recorded economy as suggested by figure 2.3. The exchange rate appreciated between 1994 and 1997 roughly 60-70% according to various indices, and there are indications of an appreciation "overshot" from mid-1996 onwards, with a recent correction towards parity in mid-1998. Tax reform has been initiated, the state order system has been abolished. A mass privatization program is being implemented; agriculture land reform is being initiated; and a restructuring of the electricity and coal sectors is underway.

Figure 2.3. Evolution of Purchasing Power Macro-Economic Indicators



2.10 **Considerable Remaining Challenges.** There are, however, a number of factors that point to the fragility of these early successes and indicate the considerable challenges ahead in securing macroeconomic stability and restoring growth.

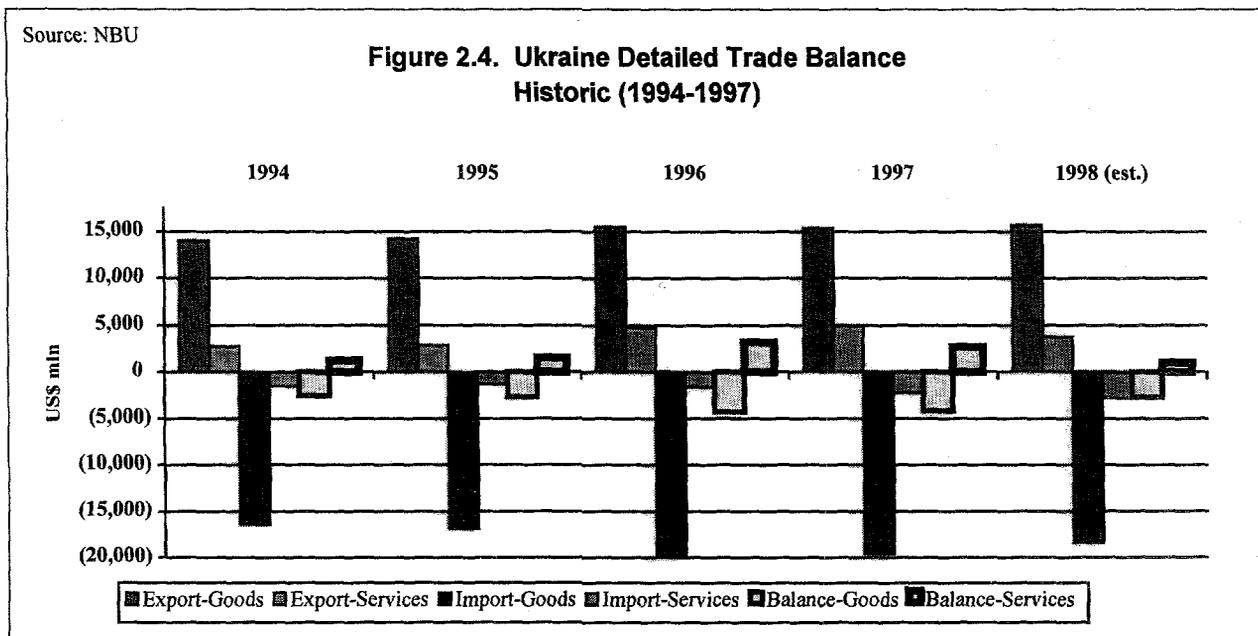
(a) **First**, the stabilization effort is fragile. Tight monetary policy has not been accomplished by sufficient structural measures to reduce expenditures. In effect, the fiscal situation appears better than it is; the cash deficit was contained to a substantial extent by running up arrears and postponing expenditures. This is clearly not sustainable and the Government needs to address the immediate precarious fiscal situation in addition to key structural causes of fiscal imbalance.

(b) **Second**, economic activity remains weak. Officially recorded GDP fell by a further 10 percent in 1996 and continued to fall, albeit at a slower rate, during 1997. Much private activity appears to be channeled into the unrecorded economy, which is substantial and growing. Although the informal economy has cushioned the impact of the decline in officially recorded GDP, it has negative sides too; it reduces the tax and foreign exchange base and makes macroeconomic stability that much harder to sustain.

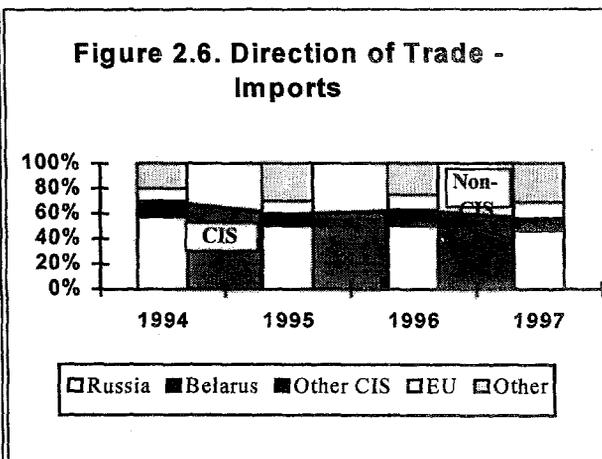
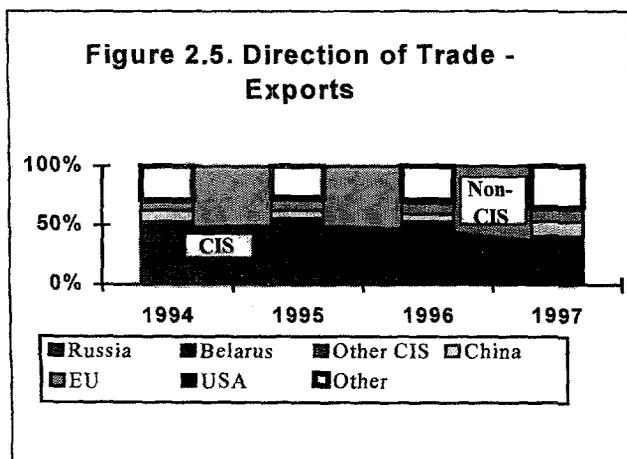
(c) **Third**, the pace of reform has slowed down. There have been setbacks in several areas of the reform program, notably in the slow progress in tax reform, the inability to achieve greater cost recovery in most of the sectors and the slow progress in agricultural sector reform. There has also been a tendency to create or reinforce monopolistic state structures, notably in agriculture, to handle market activities. The anticipation of Parliamentary and Presidential elections throughout 1997 contributed to delays in implementation of politically sensitive reforms.

### C. Foreign Trade

2.11 **A Large Foreign Trade.** Foreign trade is particularly significant to the economy of Ukraine (Figure 2.4). There has been a fall in foreign trade in 1997, mainly due to a fall of trade with Russia, the value of gross goods trade flows was about US\$35 billion in 1997 (more than 70% of GDP). Exports amounted to US\$15.5 billion in 1997 or 31 percent of the GDP. Imports represented about US\$19.6 billion in 1997 and the deficit in goods trade is estimated to be about US\$4.1 billion in 1997. Foreign trade in services is traditionally positive mainly because of transport activities, which represent about 82% of service exports. The balance for the service account is estimated to be about US\$2.6 billion in 1997 and it helped reduce the foreign trade deficit to US\$1.5 billion.



2.12 **Trade Origin and Destination Shifts.** Ukrainian trade broadened and shifted away from the FSU market (Figure 2.5 & 2.6). Traditionally the market for Ukraine's products was predominantly Russia. Russia used to be the main trade partner of Ukraine. Since 1994, Ukrainian producers have been forced by the stagnation of the domestic market to increase export volumes outside the CIS. The trade balance with countries outside the FSU in 1997 showed a surplus of US\$1 billion, while the trade balance with FSU countries showed a US\$5 billion deficit for goods.

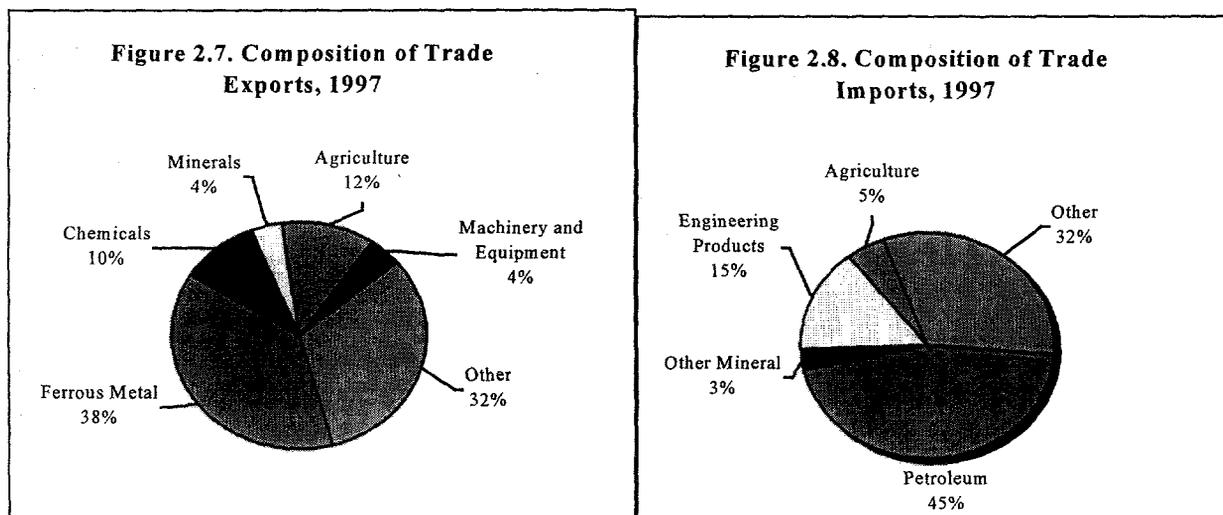


**Table 2.1. : Ukrainian Main Trade Partners**  
(in million USD, 1997)

Countries	Turnover	Export	Import
Russia	15,118	6,936	8,182
Germany	2,073	687	1,386
USA	1,377	443	934
Belarus	1,274	864	410
China	1,253	1,125	128
Turkmenistan	1,152	180	972

Source: Ukrainian Shipping, January-June 1998

2.13 **Trade Breakdown.** Ukraine exports mainly metal and imports mainly oil product (Figures 2.7 and 2.8). 1997 was a record year for metal exports. Exports of ferrous metals and products grew by 30 percent and accounted for 38 percent of the total exports. Chemical exports fell to 10 percent of exports as a result of worldwide fall in price and technological shortfall on the part of the Ukrainian producers. Machine building export volumes remained almost the same in 1997 at 4% of exports. Main imports remained mineral products and primarily energy resources although their share in total imports dropped from 52 to 48 percent in 1997.



2.14 **Changing Demands.** The industrial future of Ukraine is to be found in shifting towards greater international integration. The large Ukrainian industrial complex needs to find new clients beyond its traditional partners. The progressive integration of Ukrainian industrial companies in some international production chains, both as partner and as subcontractor, could be an effective solution to reach new client. A sustainable industrial strategy would allow reciprocal transfer of technology, while pursuing some high value added industries. *However, such a strategy would be only possible to the extent that deliveries can be performed just in time, predictably and reliably, which is not the case today.*

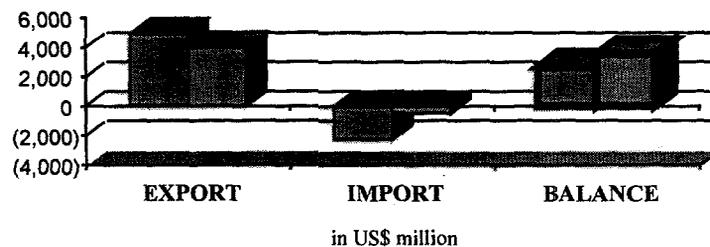
### D. Role of the Transport Sector

**2.15 The Transport Sector Before Independence.** Prior to Independence, Ukraine's transport system was wholly integrated with that of the FSU, and the country served as an important transit channel to the rest of the World. In 1990, 40 percent of the maritime traffic of FSU was transiting through the Black Sea and Azov Sea ports. The railway was part of the former All-Union or Soviet Railways (SZD). These included: (a) overuse of transportation because of planned separation and specialization of production units in a few locations; (b) over-reliance on rail transport, especially for short hauls; (c) centralized control of investments affecting all international transport; (d) technical ability, coupled with unfamiliarity of economic or other market-based analyses; and (e) almost exclusive use of transport equipment not always cost effective by world market standards.

**2.16 Relevance of Transport Sector.** The Transport Sector cushioned the economic contraction. Transport & Communications share of GDP grew from 8.8 percent in 1990 to 13.3 percent in 1997, after a peak at 14.9 percent in 1996. During the same period, employment in the sector remained about the same at 1.5 million employees, or 6.8 percent of the actual labor force. Transport flows since the break up of the FSU reflect the loss of most of the transit traffic from the FSU combined with the effects of the recent evolution of the economy. It is estimated that total public and private tonnage transported in 1997 (about 1,300 million tons, down from about 6,200 million tons in 1990) represented no more than 15 percent of 1990 levels.

**2.17 Transport Services in the Balance of Payments.** Transport services, inclusive of transit, generated a surplus in the Balance of Payment of US\$3.5 billion in 1997 and accounted for 80 percent of exported services (Figure 2.9). Without export of transport services, including gas transit, Ukraine would have had a negative balance for services of US\$900 million instead of the current surplus of US\$2.7 billion. The balance of payments account is, in the case of Ukraine, the only source of internationally comparable information on international service transactions, including transportation. It presents transport as an internationally traded service, as opposed to state support to the production function or a social service to consumers.

**Figure 2.9. Balance of Payments- Services Account- 1997**

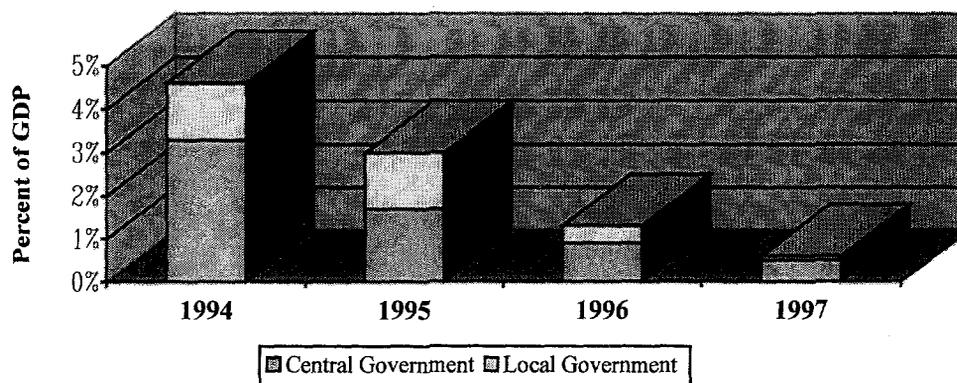


Source: NBU

■ Total Services ■ Transport Services

**2.18 Public Investment in the Transport Sector.** Generally, public investment in Ukraine is minimal, has fallen dramatically in recent years, from 4.6 percent of official GDP in 1994 to 0.5 percent in 1997 (Figure 2.10). The absence of private-sector investment aggravates the effect of the decline in public investment. Transport assets were used without being maintained. Transport investments accounted for the bulk of capital spending in the Transport & Communications sector (90 percent in 1995). At the central government level, most of the investment was allocated to the road network, while local government funding went to road transport with a small share going to investments in urban transport.

Figure 2.10.: Trends in Public Investment as Share of GDP, 1994-97



**2.19 Privatization Process.** The privatization process in the transport and infrastructure sector has stagnated, impeding the development of the transport sector. Table 2.2 shows the state of privatization in the transport and road sector as of January 1, 1998. Some success was achieved in privatizing the road transport sector but other modes were far less successful in the process. In addition to privatization, the creation of equal conditions and free entrance should be guaranteed for all companies.

Table 2.2.: State of Privatization in the Transport Sector as of January 1, 1998

Transport mode	No companies	No state-owned	No privatized	% privatized
Road transport	722	139	589	82
Railways	1,207	1,195	12	1
Sea/river	67	49	18	27
Air transport	62	56	6	10
Roads	162	84	78	48
Total	2,220	1,523	703	32

Source: Ukraine: A look to the 21<sup>st</sup> century, EBRD, 1998; EBRD Round Table, 1998.

**2.20 Transport Assets.** Ukraine's transport sector consists of 172,200 km of roads (excluding municipal, agricultural and forestry roads), 23,350 km of broad gauge, electrified, railroad tracks,

163 airports with paved runways, 7 of which having an annual traffic above 100,000 passengers, and 31 ports. The vehicle fleet consists of about 6.2 million passenger cars, 2.6 million trucks and 250,000 buses. Recent efforts and support from external donors in the transport sector include significant technical assistance under the TACIS program, which aims at expanding maintenance for the main road network and improving the efficiency of road maintenance operations.

**2.21 Transport Competitiveness.** International competition is beginning to affect the performance of Ukrainian Transport. Given its location and the present oversupply of its infrastructure, Ukraine could become a key player in trade and transport in the region at a minimal cost. The transport infrastructure is not likely to be an issue for transport entities in Ukraine during some of the next coming years. Much of Ukraine's transport infrastructure and equipment is dramatically under-utilized by world standards. Existing and forecast domestic demand is so low that it can be met with only part of the existing network. Yet lost, competitiveness is evident as demonstrated by traffic diverting to other corridors. This is primarily due to the difficulties and excess costs operators face daily. These bottlenecks, as described in the following chapters, would be inexpensive to remove, but would require a strong political commitment and active regional cooperation.

**2.22 Transport and Sustained Growth.** Ukraine's interest can be properly served only by well-designed efforts at regional integration and economic cooperation with neighboring countries. A significant contribution to economic growth could be achieved by progressively eliminating excess-costs traceable to trade and transport distortions. The government should, as a matter of economic development policy, *articulate a multi-modal trade and transport strategy, which will enhance the transit capabilities of its territory*. Such a trade and transport strategy would seek to assist and accelerate economic growth by serving domestic transport demand and by contributing to more competitive trade flows.

**2.23 Potential Corridor Development.** Corridors offer significant development opportunities. Economic activities tend to concentrate along existing corridors because of the lower cost in accessing markets and supplies. Support-to-transit activities<sup>1</sup> has proven successful in European, Latin American or Asian countries. A number of such activities can be settled in Special Economic Zones in areas benefiting of a dense, high capacity transport network. Such development creates jobs and fosters trade, as is apparent from similar undertakings in Southeast China.

### E. Ukraine's Economic Reform Priorities

**2.24** Ukraine's economic reform priorities during the next few years can readily be characterized as "more of the same" – more enterprises and farms to privatize, more controls to lift, more market-oriented institutions to establish, and more Soviet institutions to close and reform. But two likely developments indicate that the nature of the challenges will in reality be significantly different during the next stages.

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<sup>1</sup> including decentralized multinational industrial production, assembly, redistribution, logistics, shipping, information and financial services, and other activities.

**(a) First,** in the labor markets, the maturing of the newly privatized enterprises and their restructuring for survival in a market economy seem certain to increase radically the numbers of workers thrown into open unemployment as well as the demands for new types of higher skilled workers. Open unemployment is tentatively estimated to rise to 4.5 million by 1999 and this will impact particularly hard on regions and cities dominated by one or two giant Soviet style industries.

**(b) Second,** the next few years seem likely to be years of "fiscal realism" with most aspects of national and local government expenditure being put under the microscope in the search for much needed savings. This is likely to re-define the boundaries of the state much more radically than has been the case in Ukraine to-date. It will in the process create many new opportunities and challenges for the private sector but also create immediate crises in many services formerly provided by the state but which can no longer be afforded.

### 3. THE TRANSPORT SECTOR : ISSUES AND STRATEGY

#### A. Main Issues Affecting the Transport Sector

3.1 A number of issues are preventing Ukraine from fully benefiting from its infrastructure and location and developing a competitive and efficient market for transport services. These issues are the following:

3.2 **Legal and Regulatory Inefficiencies.** The existing procedures and documentation affecting commerce, trade and transport are complex, incomplete, not aligned to international practices, lengthy, costly, constantly changing, and insufficiently known by users. It leads to rent seeking behaviors from those with discretionary power. This is illustrated in detail in Chapter 5. Business cost (official and shadowed) and uncertainty are discouraging the establishment of new businesses, the expansion of new businesses, and foreign investment. This precludes the development of transport services the industry and retail businesses look for, i.e. timely, reliable, flexible, secure, and cost effective delivery through and within the Ukraine. Therefore, creation of global production and supply chains that would integrate Ukraine as an element of the global economy can not take place. Excessive regulation and forms of taxation hamper the private sector, and encourage the move towards the unrecorded economy.

3.3 **State Interference in Transport Operations.** The sector still operates under many of the organizational and policy structures of earlier days as described in chapters 5 to 11. Practically all transport enterprises and infrastructure sub-sectors, including the national road network, the railway system, the ports, the airports, some airlines, the Metro systems, as well as many organizations involved in transport-related maintenance and construction, are still State-owned units reporting to the Ministry of Transport. Most of them do not operate as autonomous, self-financing and commercially viable entities. This strong state presence coupled with limited investment capacity, limits technical innovations in transport.

3.4 **Constraining Macroeconomic Framework.** The existing macroeconomic framework impedes efficient trade by imposing restrictive practices. Currency exchange and foreign exchange access are strictly controlled, the tax system is complex, heavy and rather confiscatory. Prices and the banking sector are insufficiently developed, to support commerce and trade still partially controlled by the State. Property rights and titling remain unclear despite the efforts started.

3.5 **Insufficient Cost Recovery.** Existing user charges, tariffs and fares are often insufficient or inappropriate to cover the cost of maintenance and renewal of the core assets required. The financial performance of transport entities is declining. Tariff regulation and exception prevent the determination of market-determined tariffs and cost recovery.

3.6 **Inappropriate Financial Management Systems.** Transport enterprises in Ukraine are operating at present in an environment, lacking transparency, with very little disclosure of

financial information and virtually no accountability. The use of the former improved soviet accounting system does not give a fair and realistic picture of financial flows and financial situation in an entity. The State can not decide knowingly the amount of subsidies to be allocated to railway commuters since the accounting system does not allow for it. Current transport accounting systems are a major obstacle to correcting structural and operational inadequacies. Costs cannot be isolated and analyzed, and past-over investment cannot be rationalized without properly structured operational and financial information. There is virtually no confidence in reported information, when available, and investors have little basis on which to make investment decisions and/or monitor investment performance.

**3.7 Slow Pace of Reform.** The sector needs to move towards restructuring and privatization of operations and to a much greater use of the market mechanisms than what was previously done. The current economic situation provides a convenient time in which to implement the necessary structural and institutional changes. The period until the economy recovers may be limited, and the sector needs to be restructured to be able to handle growing traffic volumes under increasing competitive pressures. Officials are beginning to accept the logic and inevitability of the changes that will be needed.

**3.8 Erosion of the Asset Base.** The asset base of the transport sector is eroding. Mounting maintenance, rehabilitation, and renewal backlogs as well as technical innovation and equipment upgrading are not being addressed. Little, if any, maintenance is being done. The impression is that the transport system is existing on its capital stock. Throughout the sector, repair facilities and rolling stock are in need of a substantial overhaul. The situation may, within the next five years, deteriorate to the point at which maintenance and rehabilitation are no longer possible. If this occurs, the only option will be costly and complete reconstruction.

**3.9 Misallocation of Revenues.** A large part of the funds generated by the transport sector are allocated to finance inefficient and non-competitive non-core activities. For example, the railway employs about 200,000 people to produce, on a force account basis, agricultural products, social services, or industrial products like locomotives. Officially, these non core activities are shown as profit making, but since they provide services or goods under non competitive conditions, the real cost of all these activities is unknown. A large part of actual transport-generated surplus is also misallocated to non-core activities.

**3.10 New Modal Split.** Traffic, which has contracted sharply, will be showing a different modal split than the traditional one. Reliance on road transport for international trade will increase when the economy recovers, following this worldwide trend. Current infrastructures have not been designed to take this factor into account.

**3.11 Oversupply of Transport Infrastructure.** With an infrastructure designed to handle seven times its current traffic, Ukraine faces a very high level of maintenance compared to its traffic levels. Twenty four airports receive less than 100,000 passengers annually, 80 percent of the road network has fewer than 300 vehicles per day. Without well-established prioritization techniques, the allocation of the scarce resources is subject to the action of pressure groups.

## **B. Strategy for the Transport Sector Recovery**

3.12 The recovery of transport in Ukraine depends on the ability to (a) stabilize the current situation; (b) modernize assets and operations and (c) develop them to serve new transport demand. The three main components of this strategy are the following:

**a) Create an enabling environment**

- Transform the role of the Government
- Streamline the legal and regulatory framework for trade and transport
- Improve accounting procedures and financial management systems
- Impose competitive procurement for state purchase
- Impose sound investment policy
- Organize a social framework to deal with rightsizing of staff

**b) Reach financial sustainability for state infrastructure in a commercial environment**

- Impose cost recovery mechanisms for state infrastructure
- Liberalize prices
- Deregulate the transport sector
- Commercialize state transport services

**c) Corporatize transport entities and competitively privatize transportation services**

- Organize the financial restructuring of state transport entities (asset evaluation, inter enterprises debt clearing, limitation of barter practices)
- Transform state entities into independent Joint Stock companies
- Privatize transport services activities.

3.13 The combined and properly scheduled implementation of this deregulation, price liberalization and financial restructuring of main enterprises as well as effective cost recovery measures will make the corporatization and/or privatization of transport services possible. This in turn will attract private investors. Such a strategy would generate new financial capacities and opportunities to implement a sustainable and realistic modernization and development program for the transport sector in Ukraine.

### **Create an Enabling Environment**

3.14 An enabling environment gives entrepreneurs the perception of fairness, openness and freedom from intervention, and sets the rules for true and fair competition. It does not include assurances of profitability. The subsidiary role of the state is a necessary condition, but is not sufficient. The successful commercial operation of the sector calls for a financial framework

suitable to sustain transport operations in a market economy and to mobilize financial resources other than public resources. Private investment resources will only take place within this framework. Key aspects of this suitable financial framework, some of which are already in place, are either macro-economic or transport specific.

**3.15 Role of the State and the Government Size.** A major change is expected to take place in the role of the state throughout the economy and in particular in the transport sector. The state would have to renounce its current role as the only significant owner, decision-maker and operator in most of the transport activities and would assume a different role instead. The state should move away from running operations and services, holding monopoly positions, and participating directly in productive activities. Its new role should concentrate on defining and implementing policies to: (i) ensure deregulated and transparent transport markets for goods and services; (ii) allow price to respond to market signals; (iii) ensure a free and competitive transport market environment; (iv) divest from state monopolies through adequate privatization strategies; (v) ensure the creation of an enabling business environment in the transport sector. This implies the need to define a new role for the Government vis-a-vis transport, where ministerial functions are (i) policy making; and (ii) international promotion of a dynamic sector, formulation and enforcement of safety and environmental regulations. Operations, construction and maintenance would then be functions performed by independent commercial entities across the sector, with increasing private-sector involvement.

**3.16 Streamline Legal and Regulatory Framework.** A major effort is required in regard to improving the trade and transport legal and regulatory framework (Chapter V). Such a framework should be defined in close cooperation with the private sector and with regional partners of Ukraine, including the EU. The streamlining should focus on : (i) assessing the need for state controls; (ii) reforming and harmonizing customs practices on the basis of the Kyoto Convention and WTO Agreements; (iii) adopting standard documentation that can be transferred automatically between computer networks, (iv) ensuring that the definition of liability, contract of carriage, sales contract, financial transaction schemes is harmonized with international commercial standards and trade practices; (v) facilitating international transactions; (vi) ensuring VAT exemption for transit; and (vii) assuring clear property rights and titling under the law. The streamlining should be accompanied with the definition of a regional IT strategy for Trade and Transport that would enable the introduction of regionally compatible systems throughout the transport chain.

**3.17 Improve Accounting and Financial Management Information Systems.** An adequate accounting and financial management framework for the transport sector has become an essential factor (Annex 3.1). It will support the sector to: (i) achieve good management performance; (ii) deliver efficient and financially sustainable transport services; (iii) mobilize resources and sustain operations in a market economy; and (iv) introduce private investment resources in the sector. Key aspects of an acceptable accounting and financial management framework for the sector, should be, as a minimum, the following: (i) generalize Generally Accepted Accounting Principles (GAAP) or equivalent; (ii) improve accounting systems and standards; (iii) introduce audit requirements and improve auditing standards; (iv) adopt financial disclosure requirements in compliance with IAS; (v) ensure that decision-makers and managers become independent and accountable under a proper incentive framework.

**3.18 Introduce and Impose Competitive Procurement of Works, Goods and Services.** In this transition period and before gradual privatization of transport operations occurs, in order to

appropriately reduce operating and investment costs, state owned entities should be required to introduce and generalize competitive bidding procedures for procurement of works, goods and services to be financed by public funding.

**3.19 Impose Sound and Adequate Investment Policy.** Direct government expenditure or public debt guarantees require a thorough evaluation of all possible uses for these resources against their benefits. It is necessary to determine the social and economic returns for each option, followed by a descending ranking according to the contribution of each to development. The cut-off rate (i.e., the rate of return below which projects will become ineligible for Government support), will be given by the level of resources available. It is the rate of return of the last project, which can be financed prior to exhausting the resources available. Only projects showing a return in excess of the cut-off rate of return will become candidates for direct government investment or benefit from debt guarantees.

**3.20 Organize Adequate Social Framework to Deal with Rightsizing of Staff.** Moving from a planned economy to a market economy will imply increased use of new technologies in the transport sector, such as increased containerization in the port Sector, which are unavoidable if Ukraine is to remain competitive in international trade and traffic. The transport sector will need to develop a well-conceived social framework and program to deal with the rightsizing of staff and the labor redundancies, natural consequence of the improvements in productivity sought. A key concern will be to avoid social dislocation and unrest, and to deal with the labor issue in a humane and equitable manner, with an emphasis on redeployment of surplus staff to other productive activities. As part of the stabilization program of the transport sector, a comprehensive labor rationalization short, medium and long term plan, including retrenchment package, redeployment and retraining programs is to be developed to mitigate adverse impacts on labor.

### **Reach Financial Sustainability for State Infrastructure in a Commercial Environment**

**3.21 Impose Cost Recovery of Public Infrastructure.** A well-functioning market system requires that transport users finally pay all costs they impose on the economy, including consumption of public infrastructure and other externalities such as, accidents, pollution, and congestion. The risks of loss of valuable infrastructure and mounting rehabilitation needs, accelerating de-capitalization from maintenance and renewal backlogs, obsolete equipment, shortage of spare parts are the significant issues faced by Ukraine and common to most FSU countries. Reliable, sound and adequate cost recovery mechanisms should be introduced to allow, in a competitive environment, through user charges, tariffs and fares, financial coverage of operating, maintaining, replacing and developing efficient transportation services and infrastructure in the sector.

**3.22 Liberalize Prices.** Pricing for transport services needs to be determined by the market. This implies a removal of administrative controls and adherence to a cost recovery policy. Although the stated policy indicates that the transport industry is to be run on a commercial basis, with freedom to adjust tariffs as necessary, in practice there remain discriminatory pricing, cross subsidies, and absence of cost recovery. Coupled with low productivity made worse by the contraction in economic activity, the net worth of transport enterprises has decreased. International transport prices should begin to approach those of European countries, on an equal basis.

**3.23 Deregulate the Transport Sector.** To be successful price flexibility needs to be accompanied by "transparency", i.e. equal and fair access to opportunities and information<sup>2</sup>, and freedom of entry and exit<sup>3</sup>. The aim of deregulation and liberalization of markets is to achieve these objectives. The areas where deregulation would assist the stabilization, modernization and development of the transport sector are the following: (i) liberalization of prices for goods and services which still needs to be formalized; (ii) opening of foreign trade; (iii) free access to transport activities; (iv) elimination of needless economic controls in the transport sector which is a source of distortions. The only regulations expected to remain or to be developed relate to rules for competition, safety and environmental standards. Deregulation should be accompanied with the harmonization or compliance of fundamental transport legislation with existing transport legislation and standards of the European Union and other Western countries.

**3.24 Commercialize State Transport Services.** To ensure that all the business transport activities are run on a commercial basis, there will be a need to: (i) increase efficiency and reliability of operations; (ii) discontinue uneconomic operations and activities; (iii) intensify marketing efforts and client orientation.

### **Corporatize Transport Entities and Privatize Competitively Transportation Services**

**3.25 Introduce Professional Valuation of State Assets and Define Adequate Amortization Policy.** Although several revaluation of assets in the sector were implemented in 1995, 1996 and recently in 1997, it appears that a professional inventory, valuation of infrastructure assets, equipment and inventories and clear title establishment, will have to be performed, particularly, since privatization of productive operations would have to be envisaged. On another hand, government will have to ensure that periodic adjustments and appropriate depreciation and provisions policies are clearly defined and implemented to take into account economic and financial realities facing the sector.

**3.26 Facilitate Inter-enterprises Debt Clearing and Limit Barter Accounting Practices.** The government needs to help major state owned companies to straighten out inter-companies short term debts and to let poorly performing companies go bankrupt. Simultaneously the common practice of barter should be limited to avoid demonetization of the economy, increased contribution to the informal sector, tax evasion and increased poor financial performance of the transport entities.

**3.27 Privatize Transport Activities.** The transport sector needs to be made an explicit element in the privatization strategy of the government. Active state presence in the productive activities tends to inhibit, weaken and in most cases, prevent the private sector from functioning, as it should. To do so, the government needs to decide, as a matter of policy, on the role of the

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<sup>2/</sup> It implies the following: simplification of commercial legal codes applicable; contracting and procurement according to well known rules accessible to all parties; public bidding and notices of intent to procure required for all expenditures; and public appeal mechanisms to ensure that applicable rules are respected.

<sup>3/</sup> This implies that: permits, licenses, selection of routes and determination of levels of service need to be free of Government intervention, other than actions necessary to enforce safety and environmental standards. Authorization to operate within the sector would become a right of those interested in doing so. In return operators in the sector would be obligated to provide relevant operational data and information to the State.

private sector in delivery of transportation services. Privatization implies the transfer of responsibilities from public to private sector. This transfer can take various forms (see Box 3.1), depending on the activities concerned, actual circumstances, the amounts involved, the entities selected and the timeframe for its implementation. When privatization is not applicable, competitive outsourcing should be applied.

3.28 All forms of private-sector participation are relevant for Ukraine, although, considering the financial context, those offering financing and efficiency gains would yield the greatest benefits. The experience of other countries, in transition economies, highlights some valuable lessons to help guide the definition and implementation of such a strategy in Ukraine. The government will have to focus on several large schemes of objectives. First, improvement in governance, commitment at the highest level of the authorities to private-sector involvement and clear transport policies. Second, elaboration of the most adequate privatization strategy, programs and action plans for each of the sub-sector within the transport sector. Third, development of the institutional, legal and regulatory framework enabling sustainable and competitive privatization process. Fourth, development of a well-functioning domestic capital market as Ukraine cannot just rely on foreign financing for the development of its transport infrastructure.

**Box 3.1. : Various forms of Private-Sector Participation in Infrastructure (PPI).**

First, private-sector participation to infrastructure can be encouraged through the use of *management contract*. These contracts represent the least ambitious form of private-sector involvement. Under these arrangements, a private contractor assumes responsibility for operating an enterprise for a fee, normally for a short period but does not contribute in financing investments. The setting of tariffs remains the responsibility of the government. The principal benefit of these contracts resides in increased operating efficiency associated with private operation.

Second, the *lease*, like the management contract, aims at improving the performance of an enterprise and does not involve any investment financed by the operator. It differs from the former type of agreement in that it transfers the commercial risk to the operator and covers a longer period. It requires an agreement on tariffs.

Third, under the *concession* or "*Build-operate-transfer (BOT)*" arrangement, which can take several forms, the private partner finances and constructs new facilities, operates them and transfers them to the government after an agreed period of time. Authority for setting tariffs is transferred to the concession holder, subject to certain rules predefined within the concession agreement.

Fourth, the government can grant new entry to private investment in state-controlled sectors to compete with, or complement, an existing state enterprise. Unlike BOT schemes, new assets are not transferred to the state at the end of the contract period. The private investor remains the owner. With this arrangement, financing for investment is provided, but the performance of the remaining state enterprise does not necessarily improve.

Fifth, *privatization* of a state enterprise is the most radical form of private provision of infrastructure. In addition to efficiency gains and financing of investment, these arrangements generate revenues to the government. The transfer of responsibility can be again done through various forms: sale of assets, sale on a turnkey basis with all assets and liabilities, sale of shares in a stock company. All these forms will have to be allowed under the Privatization legal framework defined by the Government.

## 4. TRANSPORT DEMAND AND FUTURE SCENARIOS

### A. The Transport Sector in a Changing Economic Situation

4.1 In the transition from a centrally planned to a market economy, the transformations that would take place in the transport sector would be substantial. As observed in the road transport sector, the number of operators, clients and decision-makers would increase substantially. Initial beneficiaries of the opening and expansion of the sector would be transport users, operators and specialized commerce, and financial intermediaries. Of these, the operators may call for control of further entry to protect their initial market shares. As markets expand, new entrants join in the belief that they can beat the current cost structures. If so, the new entrants may lure away customers from first generation operators. The defense of the openness of markets would become one of the main new functions of the State in a restructured economy.

4.2 A freer transport sector would actually nurture and encourage entrepreneurial activity in other sectors. Small enterprises would be launched and significant amounts of labor absorbed. The main areas of expansion and growth would be trucking and bus transport, freight forwarding, regional aviation and to a lesser extent, railways. Recurrent maintenance and rehabilitation would not be dependent on the central government budget, and would become a new market for a privatized civil works contracting industry.

4.3 The actual pace of economic reform in Ukraine transport sector has been at best unhurried. Under the program of reform underway, a continuation of this trend is not conceivable. Attempts to continue with old structures operating in markets with restricted entry and protected from foreign and domestic competition would be no longer possible. Public services would operate under cost recovery policies and in a competitive environment. As a result, unneeded investments and excess transport costs would be drastically scaled back, and expansion of sector output with consistent productivity gains would take place.

### B. Growth Scenarios

4.4 The growth scenario of the Ukrainian economy was developed during preparation of the CAS update recently approved by the World Bank. It reflects the adoption of a program of macroeconomic policies conducive to the opening of the economy and sustainable growth. Based on the Government's commitment to reform the transport sector and the possible speed of introduction and implementation of the needed reforms in the sector, three differentiated scenarios have been developed: (a) a prolonged *status-quo* scenario; (b) a *Gradual Reform* scenario; and (c) a *Complete Reform* scenario.

4.5 **Status-quo scenario.** This scenario assumes the current economic and sociopolitical situation in Ukraine remains unchanged in the medium term (3-7 years). The fiscal crisis cannot be avoided, the Government does not succeed in restoring a sustainable fiscal balance and positioning the economy to restore growth. Most of trade and international transport activities would keep the same patterns. The current pace of reform in Ukraine's transport sector would remain slow and politically difficult. Economic recovery prospects, as measured by GDP growth, would be limited (less than 1 percent/year). Most transport sector entities, which already suffer from current lack of cost recovery and institutional reform, privatization or financial restructuring, would see their asset base continue to gradually erode. Slow changes in traffic demand in all modes would occur. Only timid growth in the limited number of private sector trucking and bus companies would take place.

4.6 **Gradual Reform scenario.** This scenario assumes that the targets of the reform programs supported by the IMF and the World Bank, already approved by the Government of Ukraine, would be fulfilled. Current reform programs would, therefore, be gradually accelerated, Government consumption and ownership reduced and investment levels would further increase as privatization takes hold. GDP growth would then reach between 2 and 3 percent annually. The program of reform, privatization, institutional reforms and financial restructuring within the transport sector would be implemented gradually. Attempts to continue with old structures under the guise of privatization by means of joint stock companies operating in markets with restricted entry and protected from foreign and domestic competition would no longer be possible and changes would be decided and introduced gradually over the period 1999-2001. Transport enterprises would undergo a restructuring process and reach sustainable operations in an open, competitive transport sector. Public services not privatized would operate under cost recovery policies and in a competitive environment. Under this scenario, transport traffic would progressively increase in practically all modes, to reach GDP growth levels in the medium term. Growth in private road transport would be even sharper.

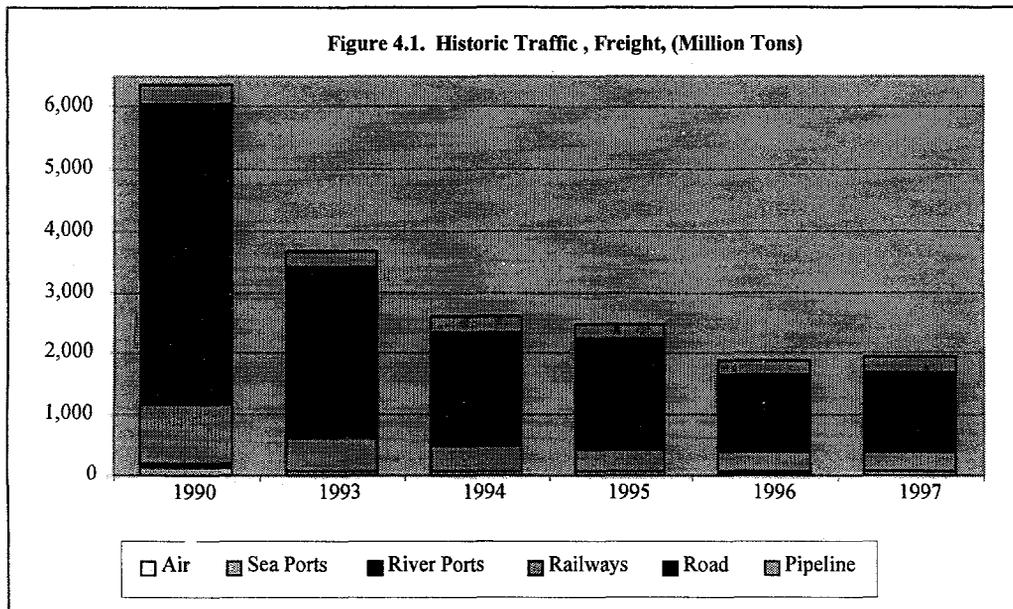
4.7 **Complete Reform scenario.** As the previous one, this scenario assumes that the targets of the reform programs supported by the IMF and the World Bank, would be fulfilled. Following the introduction of an accelerated economic reform program and a strong Government's commitment to its timely implementation, GDP growth would restart in 1999, would reach 3.5% by 2001 and average 5% from there onwards, with the possibility of sharper growth towards the year 2003. Such growth performance would be feasible provided that the expected significant change in the pace of economic reform takes place immediately. During this period, transport enterprises would undergo a timely and successful restructuring process and would reach sustainable operations in an open, competitive transport sector. Under these conditions, the fall in traffic would be arrested in 1998 and would be followed by an increase in economic activity and consequent output of the transport sector. Beginning in 2002 growth rates in the sector, consistently larger than 5% would be observed.

4.8 *The Complete Reform scenario will be used throughout the report as the anticipated scenario.* Figures 4.1 to 4.6 and Table 4.1 provide details about historic and projected transport demand developed under the *Gradual Reform* scenario. The effects of this scenario have been shown by contrasting modal detailed results for the *Gradual Reform* scenario against global results for the *status-quo* and *Complete Reform* scenarios. All details for all scenarios developed are given in Annex 4.2, Volume III: Detailed Scenario by Sub-sector.

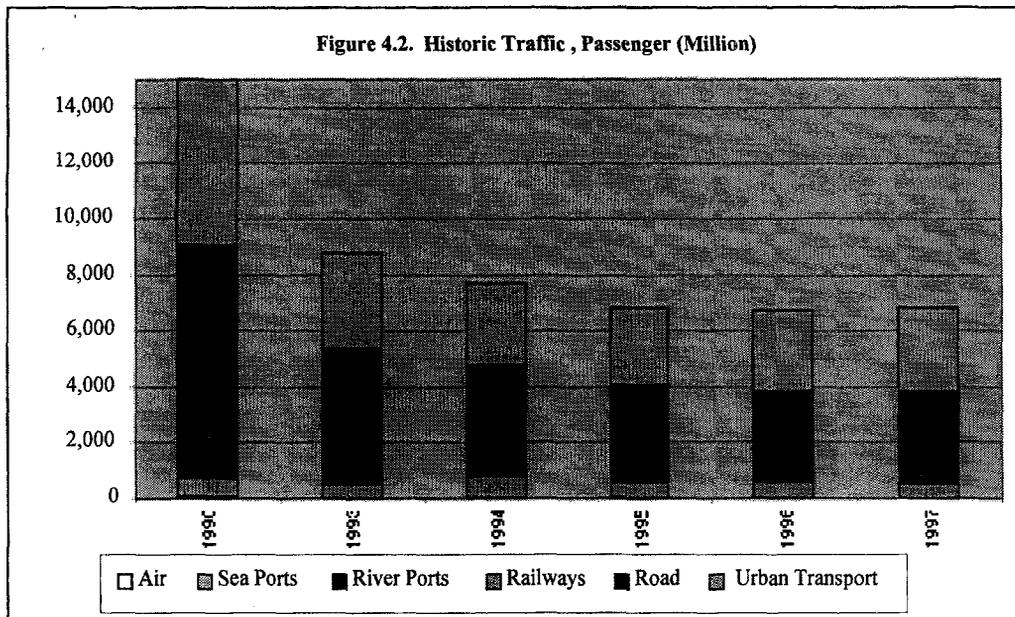
4.9 **Status of VAT on Transit.** If the exemption status on the VAT were not extended, Ukraine could face a 15 to 20 percent drop in transit traffic and export revenues. VAT on Transit operations has a temporary status of exemption until January 1, 1999. *A careful in-depth analysis (costs/benefits) and proposals for the next steps on the VAT status for transit operations, after this date, need to be carried out urgently, as the growth in trade turnover could be definitively hampered by inadequate decisions.* This could deeply affect the transport sector, which could lose in an immediate future between 15 to 20 percent (minimum) of its actual traffic to alternative routes. Regaining this traffic, if ever possible, could take several years and considerable effort. Transit transport being an export could be seen as exempt from current agreements on VAT under the IMF program. Measure 9 of the EFF agreement in force refers only to “local transportation” as opposed to service exports (par 2.17).

### C. Historic and Projected Traffic

4.10 **Freight.** Between 1990 and 1997 total tonnage transported decreased by 70%. With a total decrease of about 73% between 1990 and 1997, the road transport's share in tons has dropped from 77% to 67%. Despite an important decrease of about 66%, the railways share has been relatively stable at or about 15%, sea and river transport's has remained below 3%; and air transport's share has been insignificant throughout. Historically, the railways' share has been dominated by international traffic and by four groups of commodities within it: coal and coke, ores, black metals and construction materials. Railway traffic is vulnerable to competition from a liberalized road transport industry. Container transport represents only 0.5 percent of goods transported but has a significant growth potential (Annex 4.1).



4.11 **Passengers.** The total number of passengers has decreased by 55% between 1990 and 1997, to about 6.8 billion passengers. The dominant mode has been road and urban transport with a stable share of more than 90%. Urban and suburban transport has decreased mainly due to a constant reduction in the number of available vehicles because of insufficient cost recovery.



**4.12 Forecasts.** In the Complete Reform Scenario, freight traffic growth is expected to approach 2.5% per year from 1999 to 2001 and 4.5% per year from 2002 to 2005. Passenger traffic is expected to increase by 2% per year from 1999 to 2001 and by 4.5% per year from 2002 to 2005. Total tonnage transported is expected to grow 25% to reach 2.5 billion tons by year 2005, and the railways share is expected to remain at about 14% mostly owing to the continuing importance of heavy bulk products and their dependence on rail transport. Road freight transport's share would remain around 67%, with air, sea and river freight transport combined having a less significant share of about 5%. Passenger traffic would grow about 26% to 8.5 billion passengers. Road and urban transport's share in total passenger traffic would be more than 98%, while rail would come down to about 2%, if still existent. Air, sea and river passenger transport would retain a residual of less than 1%. Table 4.1 gives the detail of modal forecasts over the period 1998-2005.

Table 4.1  
TRANSPORT SECTOR REVIEW

(Actual 1990-1997 and Projected 1998-2005)

	1990	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>FREIGHT (m ln tons)</b>														
Air	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sea Ports	122	55	52	51	48	58	61	66	72	78	81	85	88	92
River Ports	66	25	20	13	8	2	2	2	2	2	2	2	3	3
Railways	974	532	408	360	343	334	331	326	321	317	324	330	337	344
Road	4,897	2,811	1,869	1,816	1,254	1,300	1,300	1,339	1,379	1,421	1,492	1,566	1,644	1,727
Pipeline	296	251	244	246	246	250	250	258	265	273	287	301	316	332
<b>TOTAL FREIGHT</b>	<b>6,355</b>	<b>3,674</b>	<b>2,593</b>	<b>2,486</b>	<b>1,900</b>	<b>1,943</b>	<b>1,944</b>	<b>1,990</b>	<b>2,039</b>	<b>2,091</b>	<b>2,186</b>	<b>2,285</b>	<b>2,388</b>	<b>2,497</b>
<b>PASSENGER (m ln passengers)</b>														
Air	30	15	10	4	4	3	3	4	4	4	4	5	5	5
Sea Ports	26	11	10	8	5	5	5	5	5	5	5	6	6	6
River Ports	19	8	7	4	3	0	0	0	0	0	0	0	0	0
Railways	669	502	736	577	538	506	469	384	315	260	227	198	173	152
Road	8,331	4,795	4,040	3,483	3,305	3,300	3,300	3,399	3,501	3,606	3,786	3,976	4,174	4,383
Urban Transport	5,917	3,406	2,869	2,742	2,914	3,000	3,000	3,090	3,183	3,278	3,442	3,614	3,795	3,985
<b>TOTAL PASSENGER</b>	<b>14,992</b>	<b>8,737</b>	<b>7,672</b>	<b>6,818</b>	<b>6,769</b>	<b>6,815</b>	<b>6,777</b>	<b>6,881</b>	<b>7,008</b>	<b>7,154</b>	<b>7,465</b>	<b>7,798</b>	<b>8,153</b>	<b>8,531</b>

Source: Statistical documents all sources, Transport department, Railway, Sea and River Ports and Mission Estimates

Figure 4.3. Traffic Actual and Forecasts, Freight

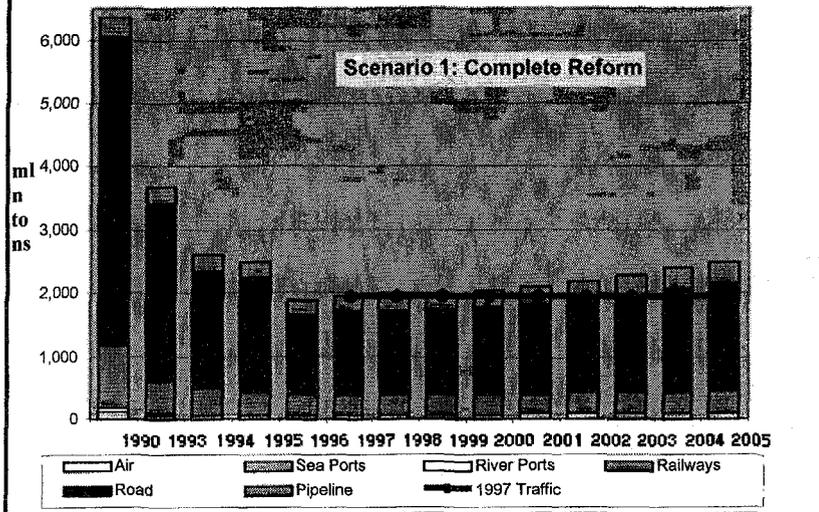


Figure 4.4. Traffic Actual and Forecasts, Passenger

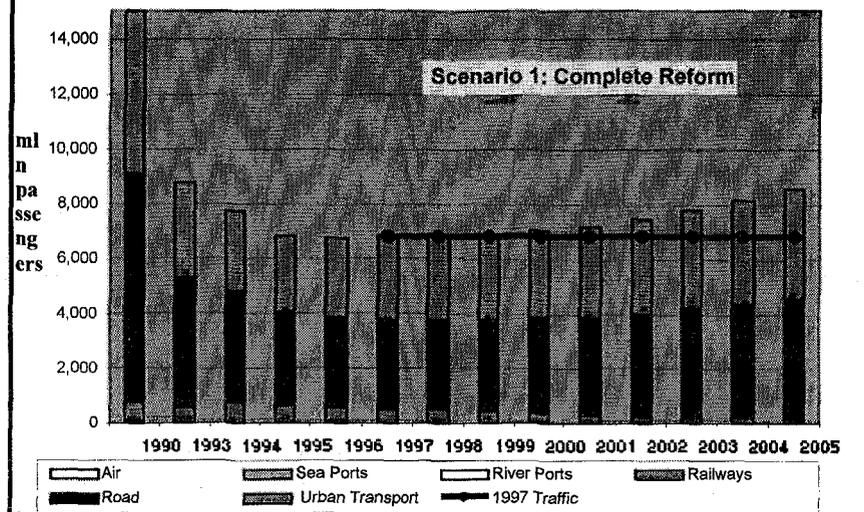


Figure 4.5. Traffic Forecasts, Freight

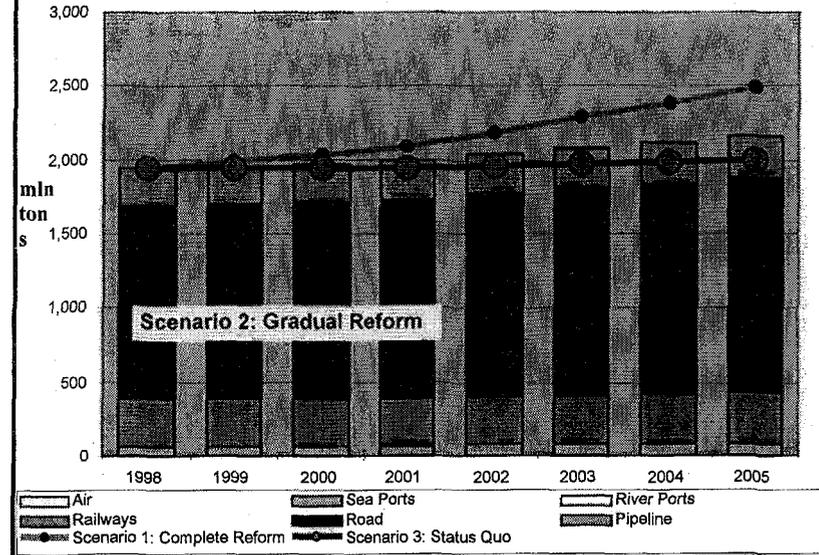
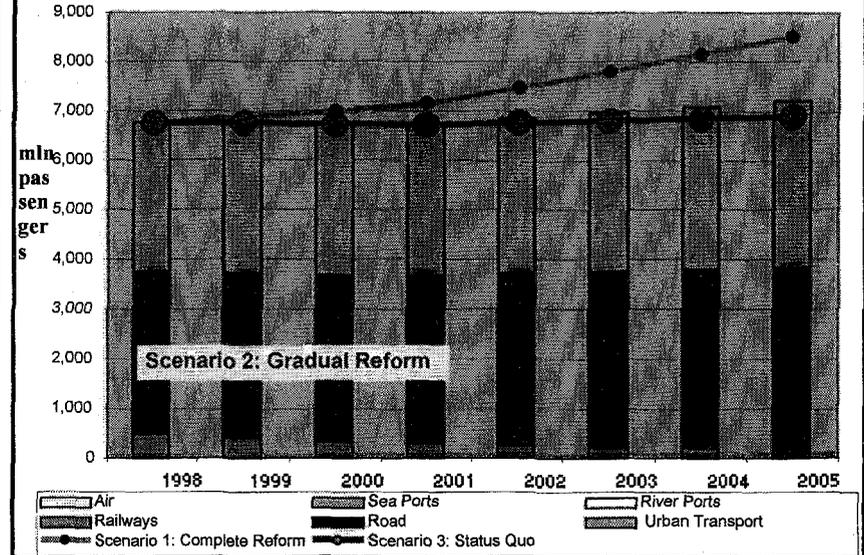


Figure 4.6. Traffic Forecasts, Passenger



## 5. THE NEW ROLE OF THE GOVERNMENT

### Introduction

5.1 ECA countries have suffered, from the early sixties until the beginning of this decade, a worsening of their ability to transform inputs into outputs. During this decade and quite apart from local and regional conflicts, countries able to move away from inherited legal structures and policies, have succeeded to different degrees in reversing this deterioration in cost effectiveness. Countries reluctant to welcome and implement change have not been able to restore growth.

5.2 The instrumental changes instrumental in restoring growth and competitiveness seem to point, in all cases, to a **reduction of the role of Government** with increased reliance on:

- (i) Commercial operations and the private sector;
- (ii) Fiscal equilibrium or close to it; and
- (iii) Development of legal frameworks, which do not dictate or interfere with production and consumption decisions.

Otherwise, a vicious circle of lack of competitiveness, adverse trade balances, insufficient investments, and inability to serve debt is seen even in energy exporting countries.

5.3 In the transport sector, there seems to be only one choice to improve efficiency, which is to operate commercially across transport modes. The size of Government is likely to remain limited, owing to reduced economic activity and still ill defined tax bases. This in turn implies that regulatory controls and ownership would need to be relinquished. *The MOT would evolve from a transport operator to a policy formulation and deregulation entity. As such it would assure the efficient delivery of transport services while monitoring and addressing safety, environmental and social impacts.*

5.4 The MOT, is actively considering this transformation with the support of the EU. This Chapter examines the new role of Government as follows: (a) the guiding principles of the process; (b) organization of the MOT; and (c) Ministerial Functions.

### A. The Guiding Principles of the Change Process

5.5 The guiding principles of the new organizational structure are the following:

- (a) ***A Flexible and Light Structure.*** The nature of changes and evolution foreseen call for a flexible and small structure capable of being responsive to the many unforeseen obstacles to the change process. Preliminary proposals from the MOT on the staff

level adjustment seems reasonable. The MOT should be able to contract out routinely additional high quality local or international experts as needs arise for specific and well targeted tasks.

- (b) Driven by Functional Analyses.** The identification of functions needed to address a reform agenda is a priority. A detailed analysis of these functions, leading to their allocation to levels and positions, and defining interrelations between positions would be the starting point. This functional analysis may be adjusted on a regular basis to take stock of the evolving situation. The resulting MOT structure should ensure a well balanced distribution of work load between units, an adequate delegation of functions to enable the Minister to perform its overall task with appropriate technical support, and the specialization of staff.
- (c) Staff Selection.** The staff recruited and assigned to the defined functions, should be motivated, technical, and willing to become active agents of change. The possibility to attract private sector transport operators should be considered, and recruitment for each position should be wide open.
- (d) Remuneration Reform.** There is a need to introduce merit-based processes in recruitment, evaluation and promotion, and create an incentive structure to allow the Ministry to attract and retain qualified and competent staff. The retention of high profile individuals is impossible without a proper compensation, adequate compensation schemes and terms of employment need to be elaborated using private sector benchmarks. This would keep down staff rotation with the possibility to build and develop a core of newly selected staff.
- (e) Training and Staff Development.** The expected rhythm of transport evolution makes necessary well targeted training programs in Ukraine and abroad. This training would enable newly recruited staff to take stock of the considerable experience in public sector restructuring worldwide.

## **B. New Organization of the Transport Sector**

5.6 The restructuring of the Transport Sector in Ukraine, as recommended in this report, affects significantly the role and functions of the Ministry of Transport with the transfer of operational responsibilities from the State to the private sector, via commercialization, privatization and divestiture of assets. The role in policy making of supra ministerial entities, technical advisors to the Cabinet of Ministers and modal agencies will disappear, as this function is taken over by the MOT itself. This transformation would be progressive over a transition period corresponding to the pace of sector reform that may be feasible. The new organization of the Transport Sector is described below on the basis of: (i) the elements of the restructured sector; (ii) the proposed organization of MOT; and (iii) the functions of the Ministry.

### **The Elements of the New Organization**

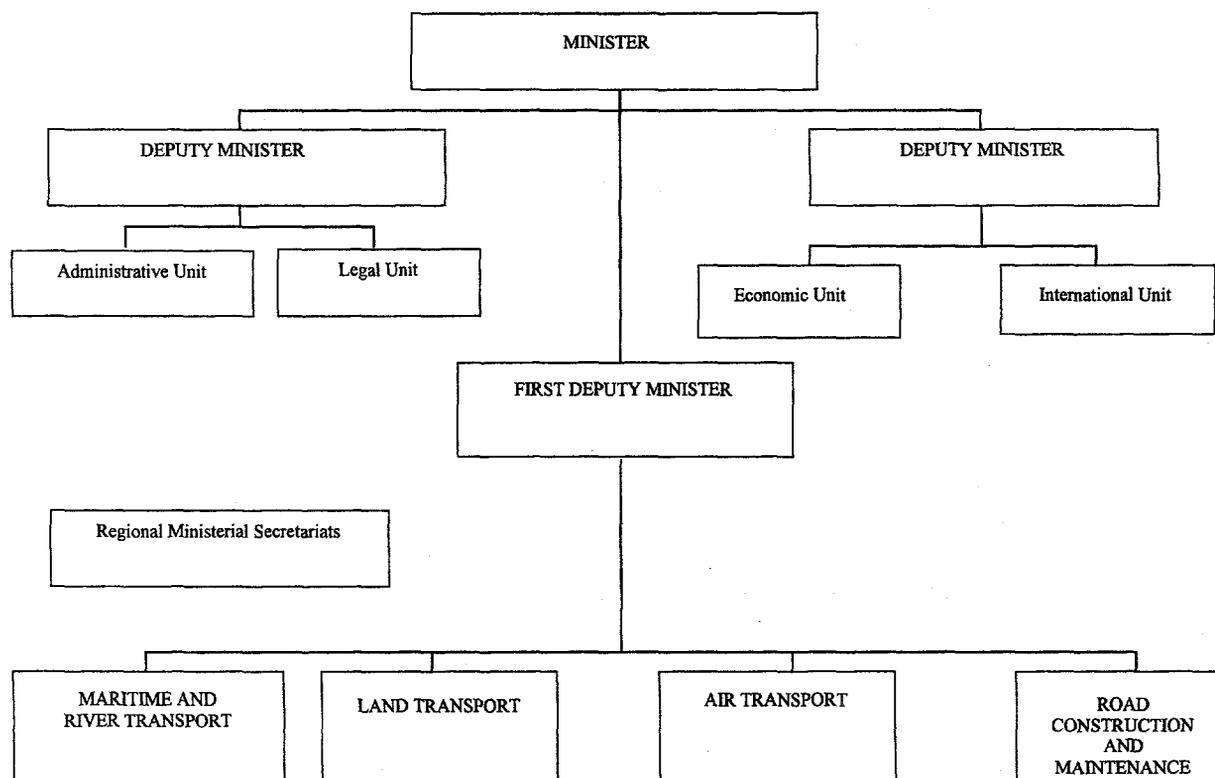
5.7 The six main elements of the restructured transport sector are as follows and require specific skills:

- (a) *Public Private Partnership.* The introduction of a streamlined legal and regulatory framework requires open institutions cooperating with the various parties involved in the creation and development of supply chains. These parties involve, without being limited to, industrial groups, forwarders, customs, various ministries, the banking and insurance sectors, transport operators, distribution centers, neighboring countries and any agency interacting with the trade process. The aim of this cooperation is to remove progressively unnecessary interventions and enable smooth trade operations.
- (b) *Strengthened Economic Analysis.* The allocation of investments, the selection of projects, and the determination of full cost recovery of public infrastructure to ensure their financial sustainability, call for strengthened economic analysis on the Government side. The increase in Government's accountability for the use of public resources will similarly lead to a need for public relations management supported by economic analysis. The new structure proposed by the MOT takes this element into account.
- (c) *Legal Expertise.* The restructuring process needs to be accompanied by the development of new, though less invasive, laws and regulations. International integration, privatization, concessions, and increased outsourcing of activities will create a need for strengthened legal capabilities.
- (d) *Financial Expertise.* Financial expertise will be required to proceed with asset evaluations and to transfer these assets, services and responsibilities to the private sector. In the meantime, this type of expertise will be necessary to ensure proper depreciation levels and manage transport services still under state control.
- (e) *Procurement and Contract Management Expertise.* The contracting out of activities also needs resources allocated to managing the procurement process and related contracts between the Government and providers of goods and services.

## Proposed Structure

5.8 The Structure proposed (organizational chart is shown as figure 5.1 below) would include a minister, three deputies, three advisory units, initially four sub-sector departments, and regional secretariats. Ministerial functions, would be delegated for implementation to the units, department and regional secretariats.

5.9 **The Minister's Office.** Its tasks are those related to the exercise of the authority given under the Public Service Law on the Powers of the Executive Branch. It would include the creation of services and their operation, the representation of the country and its Government, the assignment of concessions and grants and definition of their characteristics, including concession period and its penalties; and coordination of sector policies with applicable State policies, and also other high State powers and tasks which may be assigned.

**Figure 5.1. Proposed Organizational Chart for the New MOT**

**5.10 Ministerial Departments.** While the Law on executive powers confers to the Minister of Transport the responsibility for the above functions, their actual implementation will be assigned to the different operating units of this Institution. These are: Air Transport Department (Airlines, Air Traffic Control and Airports), Land Transport (Buses, Trucks and Pipelines), Railway Transport (railway reform), Maritime Department (Ports, Shipping and Shipbuilding and Repairs) and Road Construction and Maintenance Department.

**5.11 Three Advisory Units.** Three advisory units would support the Minister's office in its daily activities : the Economic Unit, the Legal Unit and the International Unit. Each of these would have well defined responsibilities as described in Annex 5.1. The Economic Unit would notably assess and monitor the economic impact of policies or investments, formulate the budget of the Ministry and define accordingly infrastructure needs. The Legal Unit would prepare the legal framework for the transport sector and monitor its implementation. The International Unit would facilitate the international integration of Ukraine and its regional cooperation.

**5.12 Administrative Unit.** The administrative unit would have a traditional role in managing personnel, supplies, reception and dispatch of correspondence, management of the MOT budget, managing accounts of loans and contributions from international organization in coordination with the Economic Unit, and ensuring the operation of Ministerial facilities.

5.13 **Ministerial Regional Secretariats.** The national role of the MOT explains the need to have representatives in the main regions and provinces. "Ministerial Regional Secretariats" staffed with officials functionally dependent from the Ministry and receiving their administrative powers from the local Government of the respective region would fulfill this duty. The denomination of the chiefs of these units will be "Ministerial Regional Secretary" and their status will be that of a representative of the Minister in the respective region. The staff of these units must be minimal and, basically, technical. Their task would consist in addressing routine problems that can be solved at the local level.

### C. Main Ministerial Functions

5.14 **Program, Formulate and Implement a National Transport Policy and Strategy.** The Minister will formulate transport policy and annually propose to the President of the Republic the programs that will be carried out in the transportation sector, indicating the unit responsible for each task, the intermediate goals of each one and the expected time for each stage. Progress reports will be formally issued at the end of each quarter. At the same time, the Ministry of Transport will inform the President of the Republic on the progress made. (The implementation of the policy will require the introduction of relevant regulations and removal of obsolete ones.)

5.15 **Authorize Passenger and Freight Services, National and International.** Each transportation service requires an authorization, explicit or implicit. In the case of passengers, in particular for international services, a procedure has to be established involving technical study units at the Department levels. The procedure should be fast and well defined following a policy of openness and freedom of initiative. The principles that should prevail are the following: "each person risks his own capital" and "the State must facilitate the growth of the supply of services". In the case of implicit authorizations, especially for national services, a general framework of basic reporting requirements is needed and each transport enterprise will have to inform the public at the beginning (and at the end) of the services that it is carrying out. Record Units within each Department will have to be organized to follow up. The unit should also maintain an updated record of assets and concede to foreign ships or planes the quality of national carriers if leased by Ukrainian companies.

5.16 **Prepare and Implement International Transport Agreements.** The significance of transit transport in Ukraine indicates the need for its rapid international integration via the ratification of transportation agreements. The reciprocity principle and acceptance of requests to create services from other countries where Ukraine could operate should be favored. The first objective for the Ministry is to obtain conditions under which Ukrainians may have appropriate transportation services, irrespective of whether they are provided by either local or foreign operators. In this case, the procedure is similar to those described for the authorization of the national services, but considering the agreements signed with other countries. The International Unit should be in charge of drafting, ratifying, monitoring and implementing such agreements.

5.17 **Elaborate and Publish Annually Transport Statistics.** In a restructuring process, valid information is essential to convince unions, public opinion and investors of progress made. Technical units of each sub-sector should elaborate relevant statistics. In general, the statistics of the means of transportation are obtained from those entities with which operators need to deal on a regular basis. In subsequent stages, after the development of tax rolls and data bases, these can

provide reliable data on transport operations, starting from the “dispatch documents” which need to be enclosed with each transported freight.

**5.18 Coordinate Transport Related Issues.** The Minister will ensure the proper coordination of transport related issues with other Ministries and the cabinet. It will specifically focus on improving inter-modal coordination. In the interim, while state transport companies still exist, the Minister will report on these companies to the Cabinet of Ministers while keeping control by means of its technical units of the state transportation companies and on the impact of Cabinet-issued regulations on the state patrimony.

**5.19 Present Relevant Budgets and Financial Statements to the Ministry of Finances.** The official presentation of the budgets of the ministry and state transport Departments, and financial statement for state transport companies is another function that permits the proper allocation of public resources and control of the State companies. MOT and the Ministry of Finance would review each of these to ensure that public resource allocations coincide with the Governmental strategy. The budget presentation should be the occasion to introduce a cost recovery mechanism for maintenance and repair of state-owned infrastructure.

**5.20 Carry-out Studies to Improve Transport Policies, Evaluate Transport Projects and Maintain a List of Projects with an Economic and Social Evaluation.** The Economic Unit can carry out small studies, technical reports, have opinions or give technical advice. In some cases, these tasks may happen with the support or joint participation of other advisory units and/or the corresponding operating Department. More complex and specialized studies may be requested under contract from external individuals or companies, keeping in mind the requirements of its final audience. In these cases, the Economic Unit will be the counterpart of the external international or local companies and procure and manage the consultant’s service contract.

**5.21 Establish Economic (De)regulation for Tariffs and Competition.** In the transition to market driven tariffs, tariff setting, and progressive tariff freedom for transportation services in Ukraine is a task that involves the whole ministerial organization. It includes the preparation of regulations that ensure a proper competition between modes. The sub-sector Departments will know the specific tariff framework of the services they are responsible for. The Economic Unit will know the price variations of the main raw materials. Based on this knowledge, the Minister will be given a suggestion. Once prices become free in a liberalized environment, the system generates its own self-control and this function reduces to recording observed real prices. At this point, the improvement of safety levels, environmental protection and competition levels in order to generate effective and efficient services at lowest prices become the only concerns.

**5.22 Elaborate Legislative and Normative Acts for Adoption by Parliament.** The Ministry sets up regulatory rules and procedures covering the agents operating in transport activities. It seeks to assure that the collective performance of these agents would be consistent with the economic, social, development and safety policies that the Government may define for the country and for the sector. This ministerial attitude means a permanent revision of its activity and adaptation to the new situation.

**5.23 Set up and Implement Licensing of Transport Services and Inspections.** The Ministry ensures the implementation of regulations. A number of licensing requirements and inspection on staff and equipment used in the provision of road, air and maritime transport

services are needed to ensure a limited impact on environment and a reasonable level of safety. Corresponding regulation needs to be designed. In the case of reiterated or serious deviation, it may be necessary to consider suspensions and cancellations of the authorizations to the provider of such transportation service based on a study by the corresponding sub-sector Department.

**5.24 Implement Policies on Fiscal Subsidies in Transportation Services.** The State has some overarching functions related to minimum subsistence levels of the population, sovereignty and geopolitical integrity of the country. Due to this, in some cases, the continuation of some transportation services corresponding to a universal service obligation may be recognized. These services are defined at the highest political levels of the country such as the President of the Republic and subject to parliamentary approval. The Ministry of Transport will be the organization that will implement such actions, through the sub-sector Departments and the Economic Unit (by the budgetary task) and the Administrative Department (by the accountable management of Ministerial resources).

**5.25 Public Investment Policy and Investment Planning.** The State must retain the function of defining priorities in constructing or maintaining transport infrastructure, improving the design and/or conditions of some existing transport axes based on transport user needs. In Ukraine, the MOT is responsible for transport infrastructure, and as such is in charge of establishing project priorities and optimizing the use of existing assets. The Economic Unit of the MOT is the entity responsible for this task in accordance with modal agencies' requirements.

**5.26 Contracting out and Managing Public Funds.** The MOT, using its modal departments is responsible for the appropriate use and management of public resources whether collected from the general budget or from user charges. It includes the use of appropriate competitive bidding procedures.

## 6. TRANSPORT AND TRADE FACILITATION

6.1 Ukraine faces excess costs linked to trade and transport on the order of US\$2,700 million, or 6 percent of the country GDP, per year. A review of barriers to trade and transport shows that inappropriate legal and regulatory framework, restrictive practices, lack of professional training in modern trade and transportation techniques, as well as general uncertainty prevailing in the business environment, constitute the most substantial sources of excess costs having a bearing on trade development. Infrastructure, except for the road network, which is in a state of disrepair, constitutes only a secondary obstacle to trade and transport.

6.2 **Methodology.** This chapter reviews barriers to trade and transport on main transport modes and corridors, from the viewpoint of Ukraine and from that of its trading partners. The indication of significant excess costs resulting from macroeconomic comparisons are confirmed by an analysis of barriers and associated excess costs that affect the trade and transport chain in Ukraine. Barriers and excess costs are studied successively for : (i) customs, border crossing and documentation; (ii) modal aspects; (iii) security, risk and insurance; (iv) credit, taxation and trade protection measures; and (v) corridor development. Estimates offered are based on international comparisons, interviews with government officials and transport operators, and existing studies. Corrective measures are presented along with each major barrier. Orders of magnitude for the costs of these corrective measures are suggested, although pre-feasibility studies and budgets would be required to refine such estimates.

6.3 **Macro Economic Comparisons.** Excess costs associated with transportation operations can be estimated at US\$1,682 (or about 4.8 percent of total export and import values) or US\$2,874 million (or about 8.2 percent of total export and import values), whether non transport services are included or not. According to IMF Balance of Payments (BOP) data for 1997, country exports and imports of goods amounted to US\$35,041 million. For the same year, total transport expenditures associated with these transactions amounted to US\$4,505 million, adding 12.8 percent to the transactions cost. Inclusive of communication, financial and other services associated with these transactions, the total charges increase to US\$6,388 million, adding 18.2 percent to the transactions cost. These percentages are high in comparison with average European figures, which are in the order of 8 percent and 10 percent respectively<sup>4</sup>. As far as international trade is concerned, excess transport costs reach about 3.8 percent of GDP, while combined transport and services costs amount to 6.5 percent of GDP. These estimates are conservative since they do not fully account for excess transport costs due to inefficiencies affecting imports and transit trade, which are accounted for in the countries of origin of the shipment.

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<sup>4</sup> calculated on the basis of IMF Direction of Trade Statistics Yearbook, focusing on Exports and Imports from Europe (as a whole) to Developing countries (as a whole).

## Total Excess Costs of Barriers and Costs of Recommended Corrective Actions

6.4 The source of trade and transport inefficiencies can be directly or indirectly related to risk management in an unstable and short-term oriented environment. Excess-costs associated with each of the large number of barriers identified (Table 6.1) confirm the order of magnitude from macroeconomic comparisons. A number of low cost corrective actions are recommended. They are aimed at setting up self-sustaining processes to offset excess-costs and establish an environment conducive to enhancing trade and the flow of merchandise across the country. The nature of the corrective measures is such that considerable national effort must be mustered to help put them under way, adopted and implemented.

**Table 6.1. : Excess Cost and Cost of Corrective Measures<sup>5</sup>**

<b>Barriers</b>	<b>Estimated Excess-Costs</b>	<b>Cost of Corrective Measures<sup>6</sup></b>
	(in US\$ million per year)	(US\$ million)
1. Customs, Border Crossing and Documentation	745	23.5
2. Modal Inefficiencies	1005	21.0
3. Insurance and Security	200	0.3
4. Credit, Taxation and Trade Protection	720	5.0
6. Transit Opportunities	(400)	1.5
<b>TOTAL</b>	<b>2670</b>	<b>50.0</b>

### A. Customs, Border Crossing and Documentation

#### Direct Excess Costs

6.5 The total cost of border crossing inefficiencies was estimated at US\$745 million. Road, maritime and air transport sectors are the modes primarily affected by these difficulties. In the road sector, an estimated US\$530 million<sup>7</sup> is wasted in waiting time for trucks at border crossing (Box 6.1) due to improper facilities and procedures, to which US\$40 million should be added to include cost imputable to customs and documentation. In the port sector, procedures in place are responsible for excess cargo dwell time in ports averaging 10 working days leading to an estimated US\$175 million in financial costs. In the air sector, the low level of traffic may be related to stringent customs control. In addition to these direct costs, unpredictable border crossings prevent the provision of reliable and timely transport services from and to Ukraine, and

<sup>5</sup>The accuracy of these figures falls within an estimated range of 10 percent. This table was not developed for the purpose of cost-benefit analysis.

<sup>6</sup> Corrective measures costs refer only to international inputs required to support their development. Costs of government officials redirected or engaged in their design and implementation should be accounted for in the budget of each relevant agency.

<sup>7</sup> Based on a daily value of ECU1,000 for Western Truck and ECU200 for CIS trucks.

explains the loss of competitiveness of Ukrainian Transport corridors and reported transit traffic losses.

**Box 6.1. Border Crossing Delays.** In the road sector, unpredictable long queues and waiting time at border crossing prevents the reliable and timely delivery of goods from or to Ukraine. Delays at major Ukrainian border crossings are still high, although the situation with this respect is reported by the State Customs Service to have considerably improved. Due to inadequate access roads, to under-dimensioned customs facilities, and to inadequate procedures, waiting times at major border crossing points vary usually from 8 to 16 hours and reach up to three days, even when all documents are in order, while 20 minutes should be sufficient. Difficulties for long range transport are compounded by additional delays between Eastern European countries that considerably extend total travel time making it prohibitive to transport to or from Ukraine. For example trucking between Kiev and Paris takes 6 days in average, but could be reduced to 2 to 3 days with proper border crossing.

## Issues

6.6 **Inappropriate Procedures.** Existing procedures are lengthy to implement, change without prior notice, fragmented among too many ministries and state agencies, incomplete, vague and full of exceptions, leaving room to arbitrary decisions. Examples abound especially in multimodal transport (Box 6.2). Customs examine every consignment as part of anti-smuggling activities covering cigarettes, alcohol, electronic goods, ghost goods, drugs and nuclear material. This has proven very ineffective compared to risk assessment with computerized techniques and with the use of specialized mobile teams. The time consuming procedure to obtain customs approval to load export goods is conducted in advance at inland customs houses and subject to the arbitrary decision of customs to control or not the loading. Reportedly, shippers leaving from Europe need to check the procedure and documentation required prior to each shipment departure, even though retroactivity and insufficient publicity prevails. Dues must be separately paid to every Ministry imposing inspection. Inspectors do not respect seals of containers under TIR despite international conventions. Customs practices in air transport are similarly regarded as a major cause of traffic diversion away from Ukraine.

**Box 6.2. Excess Costs for Container Transport.** Without calculating the total excess cost caused by waiting times for freight transport or the loss of customers as a result of bureaucratic procedures, a minimum of US\$60 million direct excess costs related with this process can be identified. The paperwork for international transport of a container or full truckload costs about US\$300 - US\$400. To this cost, various additional charges linked to state control during the handling of one container can be valued at more than US\$125 (customs control: US\$50; sanitary control: US\$10; radiological control: US\$12; etc.). In 1997, about 500,000 international border crossings have taken place by Ukrainian and foreign trucks. An achievable saving of 30% of this paperwork would mean that costs for international road transportation would be reduced by more than US\$52 million. Customs regulations in Ukraine oblige a carrier to hire a customs escort from the port for special cargoes with destination Russia. This service costs US\$750 - US\$1,000 per container. According to the port statistics for 1997, 740,000 tons of cargo have been handled by the Ukrainian seaports, which correspond to approximately 60,000 containers. Almost 60% of the containers (35,000) are in transit. If we suppose that this escort service is required for 30% of the transit containers, canceling of this service would imply a total saving in transport costs of US\$10 million.

6.7 **Import/Export Regulation.** Importing into Ukraine is complicated by considerable paperwork requirements. Goods to be re-sold in Ukraine are assessed high value-added import and, if applicable, excise tax. Export and import controls frequently vary. Goods subject to import licensing include: agricultural chemicals, pharmaceutical products (except dental materials and sutures), veterinary medicines, cosmetics, and hygiene products. Licenses are granted through the Ministry of Foreign Economic Relations and Trade. They are issued in coordination with various Administrations. The mandatory escort for excise cargo in transit increases transit cost by 50 percent.

6.8 **Limited International Integration.** Ukraine is only the contracting party of the Customs Convention on Containers (1972) and the Customs Convention on the International Transport of Goods under cover of TIR Carnets of 1975. These conventions have not even been fully implemented and translated into national laws and procedures to make them legally enforceable instruments.

6.9 **Difficulties under TIR Regime.** Difficulties are frequent in Ukraine with the TIR system operations. They are encountered with respect to the verification of applicants credibility, finding guarantors for high value consignments, enforcement of guarantees, bringing irregularities to attention, setting penalties for non-compliance, conducting these activities away from border crossings. As a result, seals of truck transiting under TIR carnet are frequently opened by customs, breaking irremediably the transit chain. The procedure governing letters of guarantee required for transit shipments from a Ukrainian port to a Russian or other neighboring country destination, is unsuitable with insufficient guarantees, lengthy and complex claims on guarantor, and the scope prevailing in the present system for fraudulent activity to go undetected.

6.10 **Governance Standards.** The economic contraction with drop in living standards over the last few years is conducive to petty corruption, and provides little incentive to reducing the long queues. Some customs officers are reported to request larger quantities of samples than seems reasonable. "Confirmation" documents and requests are improvised. Inaccurate weight-bridges are often used leading to unwarranted fines. Privatization of some customs operations, to be conducted by internationally renowned organizations such as SGS, should be considered.

6.11 **Private-Public Interaction.** The current system and its frequent changes are imposed to the private sector, without prior consultation. There is no proper partnership between public and private sector, where both parties would mutually benefit from their actions. Officials are not responsible for the delays they cause to ship departure, cargo transfer, and down-time suffered by vehicles, whether these delays are justified or not. The cargo owner is solely liable for these costs. Officials are not able to communicate in foreign languages and demand time-consuming and costly translations.

6.12 **Rail Documentation Barrier.** The major obstacle to free passage of goods by rail between neighboring countries lies in the documentary and administrative procedures necessary to hand over train control from one system to another. However, customs controls of train shipments are less extensive than for road transport, as the railway companies deal with fewer consignees.

6.13 **Freight Forwarding.** Freight forwarding as a profession is still in a developmental stage. Most local freight forwarders act only as customs clearing agents, and not as principals taking charge of the shipment from door-to-door. They do act however as facilitators to obtain

trucking service from all-powerful trucking co-operatives, but they do not take responsibility for the shipment on the most risky leg of the itinerary, once it is transferred to a truck from a port, airport or railway.

**6.14 Infrastructure Barriers at Border.** Existing border crossing points with Poland Hungary and the Slovak Republic are in need of repair to be used to their full potential. In particular, in the case of the border with: (i) *Poland*, the crossing at Dorohursk, which serves Lublin in Poland has constraining infrastructure in Ukraine; (ii) *Hungary*, Zahony, on the Fifth Crete Corridor, is a serious bottleneck for traffic to and from the Ukraine due to a bridge in need of structural repair; (iii) *Slovak Republic*, Vysne Nemecke, on the sixth Crete Corridor, has witnessed a serious traffic decrease in recent years, due to uncertain economic conditions in Ukraine and despite new freight facilities recently built on the Slovak side.

### Cost of Corrective Measures

**6.15 Customs, Documentation, and Legal Aspects.** Several corrective measures listed in Annex 6.1 can be developed and implemented by an internal working group within the Customs organization, led by senior Customs officers. Some external assistance can be made available to explain existing international systems. The estimated overall short-term costs to address these corrective measures, including training of senior officers, is US\$500,000. The cost of the process of adjusting to the changes cannot be determined, but it will be offset by rapidly accruing benefits.

**6.16 Physical Improvement of Borders.** An estimated US\$22 million will be required to improve physically border crossings knowing that some of these upgrading works are under implementation. The US\$22 million are subject to revision in light of a new EU TACIS study. The US\$22 million would be distributed as follows: (i) Zahony : US\$2 million (short term) to repair the border bridge, and US\$5 million (medium term) to establish joint working facilities and construct new truck terminals; (ii) Vysne Nemecke: reestablish joint agreement and construct a joint truck terminal there at US\$5 million (medium term); (iii) Border crossings of secondary importance: improvement for US\$15 million in the medium term (Siret at the Romanian-Ukrainian border, and several others on the borders of Belarus, Romania, Russia, and Moldova, North South corridor).

## B. Modal Inefficiencies

### Direct Excess Costs

**6.17** Aside from border crossings and documentation, the quality of infrastructure, the quality of service provided and the organizational set up of the sector create a serious burden to shippers estimated at US\$1,005 million annually.

**6.18 Excess Distribution Cost.** Truckers' low productivity is estimated to cost US\$25 million. The impact of road condition on average speed and cost of transport are not included in the above figure. On the basis of an average freight delay of 21 days on the rail transport chain, the financial excess cost was estimated at US\$175 million. Excess costs associated with waterway transport were estimated at US\$5 million. To these could be added indirect costs due to the

inappropriate modal distribution of ponderous goods between rail and river transport. Excess costs linked to air transport were estimated at US\$50 million, inclusive of traffic diverted. The cost of failing logistics in Ukraine amounts to an estimated US\$750 million including US\$690 million in forgone trade and losses of agricultural products alone.

**Box 6.3. Logistic obstacles affecting export of agricultural products.** Logistic impediments mostly affect transport, trade, sales and distribution of agricultural products. Shipping distances for various agricultural products range from a few kilometers to thousands of kilometers. Agricultural production is carried by local (mostly automobile) transportation and by national networks (rail, water, and, to a lesser extent, air). Long distance carriage of agricultural products (over 500 km) is mostly by rail. After the breakdown of the Soviet Union, traditional agricultural product routes and traffic volumes have been disrupted. Substantial losses of harvested crops and meat and dairy products are observed. Unsound delivery and storage systems now cause severe deterioration of transported products. The absence of forwarding services and competition among hauliers often result in carrier irresponsibility. Export controls and their uneven application actually prevent marketing efforts. Lack of monetary incentives lead to spoilage, loss of quality and inefficient operation of available means of transportation. Logistical chains and computer systems for managing, controlling and haulage are essentially absent. Cargo pre-shipment cooling, grading and packing are inadequate. Quality control is absent. Appropriate storage and refrigeration facilities at handling points are scarce. Goods delivery is slow. The unsatisfactory condition of the network of rural Motorways reduces the efficiency of agricultural production and results in the loss of products before transportation. Most rural roads are almost impassable, particularly in the spring and autumn when the need for these roads is acute. Railways lack special-purpose rolling stock, in particular grain-carrying cars. The structure of refrigerated cars does not meet the requirements for carrying perishables in separate batches. There is a shortage of single, self-contained refrigerated cars, while refrigerated containers are virtually non-existent. Water transportation has insufficient reloading capacities. This results in downtimes for railway cars and ships with cargoes, and in the loss of goods.

### Organizational / Institutional Barriers

6.19 To a large extent, the condition of infrastructure, price inefficiency and poor quality of services presented in Annex 6.2 are a direct consequence of the organizational set up of the sector, which did not stimulate the development of commercial strategies or internal competition.

6.20 **Insufficient Competition.** Management orientation to marketing activities like searching for clients, maintaining their loyalty by offering competitive tariffs and building up partnerships, and encouraging investments are starting to emerge. Incentives for active competition are limited, and ports coexist rather than compete. Privatization of port activities, including stevedoring, is not vigorously promoted within the framework of the present legislation. Ports fall under the "Law of Industry", which does not cover shipping lines, customs, local authorities, or land ownership. The changing regional environment with increasing competition from Russian and Romanian ports may accelerate the pressure for quick reform and commercialization. Some positive signs can be noted, such as the opening of Ilyichevsk port to foreign operators (including Maersk, Sealand and CMN) or Odessa where the two main shipping companies are ZIM (Israel) and CMA (France).

6.21 **Regulated Tariffs.** In maritime, urban and rail transport, regulations prevent the managing authority to adopt commercially driven tariffs on the ground of higher national interest

or social impact of tariff adjustment. While these arguments are important, the system in place leads to uncontrolled subsidies benefiting segments of the population that are not necessarily the poorest and to a perpetuation of uneconomical activities. Regulated tariffs also affect the normal modal distribution of traffic. Thus subsidized transport of ponderous materials via rail are identified as a major cause for river transport atrophy, although river transport is known to be far more adapted and cost efficient under normal market conditions.

**6.22 Restrictive Practices.** Barriers to entry abound in Ukraine. The granting of licenses enabling truckers to drive in foreign countries is conducted on a preferential basis and leads to a black market of licenses accompanied by waiting delays. Foreign ships, apart from German and Austrian are not allowed on the Dnieper river, leading to a de facto monopoly by a private Ukrainian company, Ukrechflot to navigate on this major waterway, and which it chooses not to do.

### **Corrective Measures to these Modal Inefficiencies**

**6.23 Modal Measures.** The strategy and measures related to each sub-sector restructuring are developed in their respective chapters. Closely related to modal measures are actions to foster multi-modal transport.

*Multi-modal Transport Measures (Annex 6.3).* The policy framework fostering competition also leads to optimal integration of various modes and the development of multi-modal transport. The Convention on International Multi-modal Transport of Goods (1980), provides good guidelines for the creation of national legislation in this matter. A network of privately operated terminals with open access to all companies is by far preferable to a larger number of dedicated terminals with restricted access and use. Terminal operators offer five types of services: transshipment services; load unit services; vehicle services; network services; cargo services. The feasibility for such independent operated multi-modal terminals deserves further study including the possibility to attract private investors in necessary capital investments.

*Regional Coordination.* An international and regional approach is necessary in respect of the freight terminals. Measures are required to promote: (a) the establishment of an efficient inter-modal network; (b) technical and organizational standardization; (c) qualitative minimum service requirements; (d) choice of location of new terminals. An exchange or joint use (pool or reciprocity contract) of wagons (containers/wagons) by various transport operators in the network should be established.

**6.24 Logistic and Management Measures.** The program would include the establishment of training for Ukrainian agricultural logistics and transportation workers in Western Europe, as well as in Ukraine to make them familiar and conversant with conditions, procedures and techniques prevailing in market economies. It would be supplemented by long-term on-the-job training of qualified transportation personnel in transportation firms of Western Europe. In parallel, the introduction of the profession of combined shipment agent and free access to freight transport services, e.g.: in the agricultural sector, should be implemented.

**6.25 Cost of Corrective Measures for Modal Inefficiencies.** The estimated cost of measures would be US\$ 21 million, with US\$10 million applied in the short term to improve multimodal facilities and the remainder used to finance technical assistance as outlined in Annex 6.3.

## C. Security, Risk and International Insurance

### Assessment of Inefficiency Costs

6.26 Excess costs falling under this category amount to US\$200 million and stem from two sources, namely loss and damage frequency, on the one hand, and avoidable excess insurance premiums due to the legal structure of the industry, on the other hand. Assessors have stated that losses or damages affect 15 percent of the shipments they are called to inspect. The high occurrence of corruption, losses and pilferage can be estimated as causing between 1 percent to 3 percent increases in insurance rates, leading in the 1 percent hypothesis, to a total of US\$160 million. Kiev local representatives of a large international insurance company estimated higher insurance costs resulting from legal constraints bearing on the insurance industry. Their figures were corroborated by freight forwarders, and amount to 1.33 percent of insured export values, leading to an excess cost of US\$40 million. (Annex 6.4 discusses the issues involved)

6.27 **Corrective Measures.** The two major actions required are:

- (a) liberalizing insurance laws with respect to foreign trade, removing the obligation for them to insure through a Ukrainian company; and
- (b) further regulating and consolidating Ukrainian insurance companies in order to increase their capital and reserves, raise their credibility and make them competitive with foreign ones, thus limiting the need for re-insurance.

6.28 Creating transport insurance systems is one of the priorities for Ukraine in promoting containerized transport. In a privatized transport sector, the problem of liability is of serious concern for the shipper and the carrier. Especially in the field of inter-modal transport, respective responsibilities and consequent liabilities are often unclear and difficult to assign. The definition of liabilities and harmonization with international standards<sup>8</sup> are critical.

6.29 **Cost of Corrective Measures.** These corrective measures require 25 man-months of technical assistance estimated at US\$300,000 for their design and implementation in concert with expatriate experts, insurance company professionals and management consultants. The aim is: to review the insurance industry framework in Ukraine, to restructure freight and transport insurance components, to harmonize them with European standards, to make them consistent with reform and additions to be brought to the system of international Conventions accepted by Ukraine, and to reduce costs incurring to shippers all along the transport chain.

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<sup>8</sup> The draft Handbook for Multimodal Transport for Officials and Practitioners (UNCTAD, Geneva, 1995) may serve as a tool for adhering practices in risk allocation and insurance systems in international intermodal transport.

## D. Credit, Taxation and Trade Protection Measures

### Direct Cost

6.30 The number, the bureaucratic complexity and the stringent character of the credit and currency regulations constitute a severe obstacle to trade transactions, estimated at US\$720 million. When these regulations do not discourage business, they increase the time and costs of conducting both export and import transactions. According to the freight forwarders, the excess cost resulting from these obstacles is of the order of 2 percent ad-valorem and applies to exporters and importers as well, irrespective of their trading partners' geographic location. The various restrictions on credit and on opening accounts abroad prevent traders from obtaining low interest loans and leasing contracts available abroad. This results in limiting the possibility of acquiring goods and services, e.g., foreign transportation vehicles more efficient than those available in Ukraine and allowed to be driven throughout Europe. The high level of commercial lending interest rates makes exports sensitive to delays, as delivery delays translate into payment delays. Exporters from Ukraine are most affected, as they are submitted to at least 40 percent annual borrowing rates.

### Credit and Finance Issues

6.31 Ukrainian banking is unstable and in a transitional period. Foreign investors are confronted with difficulties in transferring funds both domestically and internationally, in converting currency, and in repatriating profits in foreign currency. The Ukrainian banking system consists of the central bank, the National Bank of Ukraine (NBU), and commercial banks of various classifications. Two state-owned banks (Export-Import Bank of Ukraine and Oschadbank, the Savings Bank of Ukraine) along with three former state-owned banks hold more than 90 percent of the assets, branch locations, and personnel engaged in Ukrainian banking.

6.32 **Currency Restrictions**<sup>9</sup>. The use of foreign currency for cash payments on the territory of Ukraine was prohibited as of August 1, 1995. Enterprises with foreign investments are permitted to keep 100% of hard currency revenues generated through the export of goods or services which qualify as their "own production". All other Ukrainian legal entities would be required to sell 50% of their hard currency revenues for Ukrainian currency to an Ukrainian commercial bank. Currently, the official exchange rate, auction rate, and "street" rate move closely together. According to the Foreign Investment Law, the exchange rate for converting foreign investments into Ukrainian currency shall be the rate established by the National Bank of Ukraine. Current legislation stipulates that Ukrainian currency is the only legal form of payment on the territory of Ukraine.

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<sup>9</sup> Currency decrees stipulate that individual licenses have to be obtained from the NBU to carry out operations relating to the following cases : (i) use of hard currency in the territory of Ukraine as a form of security; (ii) a resident of Ukraine opening a bank account abroad; (iii) a resident making an investment abroad; (iv) obtaining or granting of loans in hard currency by a resident of Ukraine; (v) making hard currency payments abroad from Ukraine, except for payments abroad in hard currency, which are carried out by residents in order to fulfill obligations in such currency to non-residents in connection with payment for goods, services, works, and intellectual property rights.

6.33 **A Cash Economy.** Due to a combination of delays, changes in market conditions, shifts in regulations and taxation rules, as well as high rates of interest, it is not unusual that consignees go bankrupt or disappear by the time the consignments are delivered. In such cases, the freight forwarder cannot recover his expenses even if he chooses to take ownership of the shipment, with all the liabilities attached to it. This very real threat makes it necessary for carriers and forwarders to request advance payment, often in cash, a major impediment to trade development and increase in the transaction cost. This business practice partly explains that prices which consumers have to pay for imported goods are comparatively high. It also allows entry only to dealers having cash or access to credit, and thereby reduces export opportunities as well. Given that the shipper has to bear the brunt of theft and delays consequences, the risk of doing business becomes prohibitive.

6.34 **Limited Credit Access.** Credit to the private sector is scarce, as commercial banks remain risk-averse; the spreads between lending and deposit rates are high and loans are mainly short-term. In late 1996, the NBU's refinancing rate was 40 percent, a considerable decrease from previous levels as inflation continues to decline. Commercial bank rates have also come down. The majority of commercial bank loans are for ninety (90) days or less, with most terms being thirty (30) days or less. This precludes loans from Ukrainian commercial banks for virtually any transaction -- a major problem affecting a wide range of business in Ukraine. Ukraine has adhered to a number of international legal instruments pertaining to international payments via checks, bills of exchange, letters of credit, and collection arrangements. The safest method for an exporter to Ukraine of receiving payment for an export is through an irrevocable letter of credit. A number of banks are members of SWIFT to provide clients with international payment transfer services.

6.35 **Taxation Issues.** The Ukrainian tax system<sup>10</sup> remains far from coherent, and seriously increases the cost of doing business. Ukrainian and foreign enterprises must pay taxes quarterly. Many foreign companies have complained about the confusing and contradictory nature of the Ukrainian tax system. Tax resolutions, orders, decrees, and laws are adopted from various branches and agencies of the government, with little to no coordination. Conflicting laws, spotty enforcement, and understaffed and poorly trained agencies combine to allow tax evasion and cause businesses to retreat to the shadow economy and discourage new business development and investment. The Law on Value Added Taxes and the Law on Business Profits were passed by Parliament during the first quarter of 1997, providing for a more favorable VAT and corporate tax.

6.36 **Taxation as a Trade Barrier.** The combination of a value-added tax (20 percent), import taxes (ranging from 5-200 percent) and excise taxes (10-300 percent) presents a major obstacle to trade with Ukraine. The VAT is levied at 20 percent and is generally payable at the time of customs clearance by the importer. A limited number of goods, as well as a number of agricultural enterprises, are exempt from value added taxes. The 1996 tax package limits VAT exemptions and transforms the VAT from essentially a turnover tax into a true value-added tax. The payment of excise duties should be made in Ukrainian currency at the exchange rate effective on the day of payment. New excise duties for alcohol, tobacco, and automobiles are not calculated by their customs value, but rather by volume, units, or weight (engine volume, in the case of automobiles) imported into Ukraine.

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<sup>10</sup> The overall Ukrainian tax structure is as follows: 15 percent bracket: for agricultural enterprises serving agricultural producers; 30 percent bracket: general corporate tax rate for a wide range of business entities; 45 percent bracket: for intermediate (commerce and trade) operations; and 60 percent bracket: for gambling and lotteries

## **Credit, Taxation and Trade Protection Measures-Corrective Measures**

6.37 **Free Trade Agreements.** Ukraine needs to ensure its rapid international integration. Negotiations for a Baltic Sea cooperation agreement and the establishment of a customs union with Moldova should be accelerated. Ukraine intends to become a full member of the Central European Free Trade Agreement (CEFTA), which is predicated on Ukraine first becoming a member of the World Trade Organization. Efforts towards accession to these bodies should be supported.

6.38 **Payment Procedures.** The mechanisms and instruments to effect payments in Ukraine are limited. Several measures listed below would change this situation, all these mechanisms are found in well functioning markets and are part of an enabling environment for business activities:

- Remove import licenses, i.e., make foreign exchange available on the same basis for all imports.
- Eliminate market access restrictions for financial products not effectively delivered by domestic provider, such as credit insurance.
- Ensure that current laws and regulations affecting trade finance, insurance and international payments are consistent with accepted international practices.
- Ratify and implement international Conventions, including the Convention on International Financial Leasing and the United Nations Convention on International Bills of Exchange and Promissory Notes (which addresses payment instruments used in international trade).
- Ensure that exchange control regulations do not inhibit the use of current financing and payment techniques.
- Develop control procedures that address non-bank providers of export finance, such as invoice discounters.
- Allow the use of foreign exchange earnings to purchase modern financial products that enhance their competitiveness but are not available locally.
- Promote the concept of factoring<sup>11</sup> and cross border leasing.
- Provide loan facilities for discretionary working capital to small and micro-enterprises.

### **Cost of Corrective Measures**

6.39 The cost of these corrective actions is difficult to assess. They all pertain to long term policy making and medium term programming. Some of them are under consideration. They all require training, information, and high level technical assistance. Based on recent TACIS technical assistance costs, these activities can be estimated to amount to US\$5 million over the medium term. However, it is safe to assume that substantial local costs will also be involved to cover activities of Ukrainian Government officers.

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<sup>11</sup> It encompasses the evaluation of buyer credit-worthiness, credit intermediation, collection services including follow-up of past-due receivables, financing through cash advances against accounts receivable

## E. Further Benefits of Trade and Transport Facilitation

6.40 Transport and trade facilitation measures will decrease direct costs currently faced. In addition, there would be favorable impacts to: (i) the development of transit corridors, and (ii) trade and welfare benefits.

### Transit Corridor Development

6.41 **Opportunity Cost.** Opportunity costs due to the absence of a coherent trade oriented strategy based on transport corridors can be estimated conservatively at US\$400 million in terms of additional employment, GDP, or export revenues foregone over time. According to the January 1998 "Macroeconomic Indicators" publication of the Ministry of Economy of Ukraine, net exports of goods and services have decreased by about 4 percent between 1996 and 1997. A privately owned system of duty free warehouses coupled with export processing and trade zones, equipped with highway and rail terminals, travel, shipping and banking services can be planned and implemented and reverse this trend by one half in the short-term. In such a scenario, the opportunity costs discussed in this section would amount to 2 percent of the sum of merchandise exports (now standing at US\$15,000 million) and of the foreign trade oriented transport and services (now about US\$5,000 million). *The US\$400 million opportunity cost was not included in the calculation of excess costs since this is an untapped potential and not a direct cost.*

6.42 **Untapped Potential.** Transit Corridors in Ukraine are in existence only on the map. Their implementation is mainly viewed as a rent-producing device on obliged or preferential itineraries. Opportunities to capture business potential associated with transit and trans-shipment traffic could be induced by creating Special Economic Zones and Free Trade Zones. These would capitalize on the corridors existence as transport cost reducing devices at ports, border crossings and inter-modal junctions.

6.43 **Corrective Measures.** Enactment of a draft Law on Special Free Economic Zones, which would make it possible to create special free economic zones on areas no larger than 500 hectares is recommended. Among the possible areas to receive Free Trade Zone status are the major Ukrainian seaports, such as Odessa, Kerch, Yalta, Sevastopol, and the Transcarpathian region.

6.44 **Cost of Corrective Measures.** Once the appropriate legislation is enacted, a Master Plan and a Marketing Plan for Special Economic Zones and for Free Trade zones will have to be developed which is estimated to require US\$ 1.5 million. Implementation of the Plan would be left to private investors. It would rapidly bring additional transit revenues to the State, produce employment benefits in the construction sector, and in the medium run, yield significant export and transportation related benefits.

### Trade and Welfare Gains

6.45 In addition to the pure transport and services cost reduction effects on the balance of payments, the decrease in the CIF cost of goods will expand trade. This will occur by decreasing the domestic price of imported products, provided that they are not subject to restrictive quotas

(welfare gains), and increasing Ukraine's exports towards traditional and new markets (trade gains).

6.46 From an imports perspective, welfare gains arise from the benefits that consumers in Ukraine derive from the lower domestic prices after the removal or reduction of the ad-valorem incidence of non-tariff distortions. The net welfare gain is estimated as the increase in import value times the difference between the ad-valorem incidence of the barriers before and after elimination.

6.47 On the export side, trade gains are obtained simply by summing the trade-creation and trade-diversion effects. The *trade-creation* effect is the increased demand in an importing country for a commodity from an exporting country, resulting from the price decrease associated with the elimination or reduction of distortions. *Trade-diversion* accounts for the tendency of importers to substitute goods from one source to another in response to a change in the import price of supplies from one source. The elasticity of substitution between alternative suppliers observed in trading economies is about 1.5, assuming that Ukraine, as an exporting country, has no significant supply constraints in the medium term.

6.48 For each ad-valorem percentage cost reduction, a trade gain can be computed as the sum of trade creation and of trade diversion. In all, the expected balance of payments improvement linked to these trade gains would be close to US\$2.1 billion per year. It should be noted that this total does not include additional gains from potential transit traffic growth.

## 7. ROADS AND ROAD TRANSPORT

### A. Road Infrastructure

#### Current Situation

7.1 **Road Corridors.** The priority road corridors involving Ukraine, established at the second Pan-European Transport Conference (known as the Crete Corridors) are: (i) the Third Corridor, between Germany and Ukraine through southern Poland; (ii) the Fifth Corridor, between Italy and Ukraine, through Slovenia and Hungary, with a branch from Bratislava through the Slovak Republic to Ukraine; (iii) and the Sixth Corridor, between Gdansk and Zilina in the Slovak Republic (passing near the Ukrainian border with the Slovak Republic, at Vysne Nemecke, on the Slovak side).

7.2 **Ukraine's transit border with Poland, Hungary and the Slovak Republic.** The present traffic levels are low due to the current uncertain economic situation in Ukraine. Ukraine could, when conditions return to normal, achieve a very rapid growth compared to the current level of trade, which could lead to a much higher actual traffic increase between these countries. However little traffic increase is expected before 2005.

7.3 **Public Roads.** The approximately 172,000 km road network (main roads 31,078 km and local roads 141,637 km) which is the responsibility of the Road Corporation (UKRAVTODOR) has continued to deteriorate over much of its length. The same may be said of the urban network of about 86,000 km and an unspecified length of agricultural and farm-to-market roads. The geographical coverage of the road system is generally adequate, the main exceptions concerning the need for by-passes.

Table 7.1. Ukraine Road Network

Year	Main Roads (km)			Local Roads (km)			Total Roads km
	Paved	Unpaved	Total	Paved	Unpaved	Total	
1989	30989	87	31076	123735	11956	135691	166767
1990	31035	76	31111	126164	10529	136693	167804
1991	31043	74	31117	128075	9787	137862	168979
1992	31086	74	31160	129721	9083	138804	169964
1993	31072	74	31146	130712	8660	139372	170518
1994	31060	74	31134	131665	9516	141181	172315
1995	31019	67	31086	132226	8945	141171	172257
1996	31013	65	31078	132891	8596	141487	172565
1997	31013	65	31078	133341	8296	141637	172715

**7.4 Infrastructure Condition.** A study<sup>12</sup> undertaken in 1997, indicated that approximately 6,900 km of the main road network were in fair to moderate condition (roughness index averaging about 4.3) and it was also estimated that the remaining 24,000-km were in poor condition (roughness index 5 - 6). Although no measurements have been undertaken, the visual inspection suggests that paved local roads have a roughness index between 5 and 8, while for the remaining estimated 45,000-km of unpaved local road, roughness levels ranging between 7.5 and 12 (verging on impassable) are often observed. Urban roads present a similar picture to the main and local paved road systems. There are also about 16,000 bridges of which an estimated 60% are sub-standard and in need of repair and strengthening. With the increasing number of heavy European trucks transiting through the country this is an issue deserving attention, especially on the main corridors. With adequate maintenance these main corridors should provide enough capacity for some time but it should be realized that without improved customs formalities at the border, any upgrading on these corridors would be wasted.

**7.5 Road Expenditures.** Due to the very limited resources made available for road maintenance, the position continues to deteriorate with much of the network now requiring expensive reconstruction rather than maintenance. In 1997, it was estimated that actual funds allocated to main road maintenance and rehabilitation amounted to 48 percent of needs and to only 21 percent of the needs on local roads with an overall shortfall on state roads of 72 percent. In the case of urban roads, actual funds available were estimated at 20 percent of requirements. In 1997, approximately US\$440 million equivalent were allocated for road maintenance, including rehabilitation, and in 1998, US\$550 million were budgeted compared with an estimated US\$1.5 billion needed annually. The state road authorities are to be commended on their concentration of resources on routine maintenance, but this has only been possible at the expense of important periodic maintenance, which has led to a growing backlog of rehabilitation and reconstruction. Despite the tight budgetary constraints, the budget allocation is made on the basis of pre-established norms in each oblast without the support of economic evaluation or proven warrants. The share of maintenance of the state road network in expenditures increased progressively from 64 percent in 1993 to 75 percent in 1997, leaving 36 percent in 1993 to 25 percent in 1997 of expenditures for new construction or reconstruction.

**Table 7.2. Ukraine Annual Road Maintenance Budget and Expenditure<sup>13</sup>**  
(US\$ million)

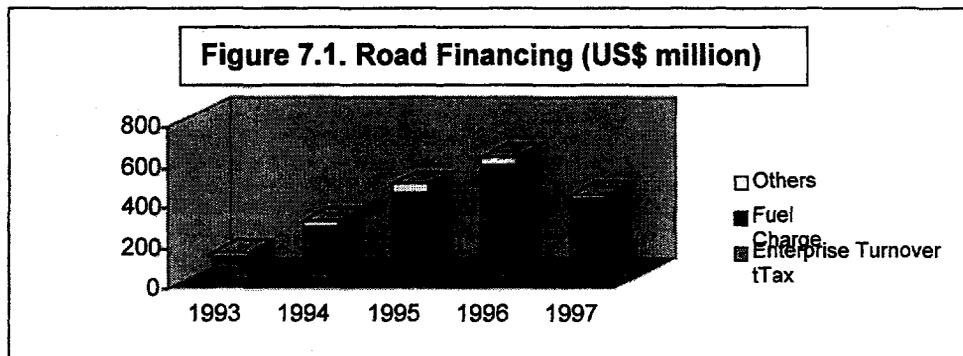
Year	Routine Maintenance		Periodic Maintenance		Pavement Rehabilitation		Total	
	Actual	Required	Actual	Required	Actual	Required	Actual	Required
1992	23.2	28.7	13.2	22.6	50.9	140.5	87.3	191.9
1993	21.2	25.5	9.6	21.6	42.1	153.6	72.9	200.6
1994	47.4	55.2	28.8	62.5	87.5	384.1	163.8	501.8
1995	93.1	105.8	71.1	118.7	185.6	882.9	349.7	1107.4
1996	143.1	150.2	109.8	169.2	192.4	1151.4	445.4	1470.9
1997		148.2		208.5		1155.8	300.0	1512.5

**7.6 Road Financing.** The existing mechanism of road financing primarily based on a tax on enterprise turnover shows some signs of erosion (Figure 7.1). Since 1991, the road system has

<sup>12</sup> Study of the Reform of Ukraine Road Sector Financing: Carl Bros Int & TecEcon, EBRD, 1997

<sup>13</sup> Required Expenditure are based on the Study of the Reform of Ukraine Road Sector Financing: Carl Bros Int & TecEcon, EBRD, 1997

been financed from a Road Fund established under the Law of Ukraine "On the Sources of Financing of Road Maintenance in Ukraine". The Road Fund has six major sources of revenue including budget contributions from the central and supplementary budgets. In 1997, 85 percent of the Road Fund proceeds were collected via a 0.8 to 1.2 percent tax on enterprises turnover, and 7 percent via a fuel excise charge. Road user charges reflecting the use of the network represent less than 12 percent of road financing. In 1997, the budget dropped by 30 percent in dollar terms following a parliamentary decision to use part of the Road Fund proceeds during the first quarter for other budgetary purposes. The collection of the tax on enterprise turnover has become increasingly difficult as a result of the economic situation. In 1996, an estimated 30 percent of enterprises provided labor, material and equipment in lieu of monetary payment for the tax on enterprise turnover.



**7.7 Road Traffic Data.** Road traffic data in Ukraine are currently scarce and unreliable. Apart from a few special project related studies, few traffic countings are carried out as a result of economic constraints. It is strongly recommended that a statistically valid program of traffic counting is reintroduced - possibly, initially, using an "N-Point" census system of about 60 sites. Traffic at border crossings is recorded but these data, although identifying the size of the potential source of transit taxes, can cast very little light on general road usage. Furthermore, it has proved impossible to obtain up-to-date official data on the size of the vehicle fleet - this being regarded as a state secret. However, the estimated vehicle-kilometers in 1994 and an estimated average of vehicles and vehicle-kilometers for 1997 - 2000 are as follows.

**Table 7.3. Ukraine Vehicle Population and Vehicle-Kilometers**

Vehicle Type	1994	1994	1997 - 2000	1997 - 2000
	Vehicles	Vehicle-kms bln pa	Vehicles m ln	Vehicle-kms bln pa
Car	na	17.3	6.3	29.0
Minibus	na	0.7	0.2	1.2
Bus	na	0.7	0.2	1.2
Truck 2 axle	na	3.3	1.0	6.9
Truck 3 axle	na	1.7	0.5	2.5
Truck and Trailer	na	0.6	0.6	1.0
Articulated Truck	na	0.2	0.6	1.2
<b>TOTAL</b>	na	<b>24.4</b>	<b>9.4</b>	<b>43.0</b>

**7.8 Traffic Trends.** Enquiry among participants in the transport industry and some government officials indicates that the size of the vehicle fleet given in Table 3 is of the right order and an official estimate for 1996 gives a total vehicle fleet of 8.91 million, which would back up this enquiry. However, although road traffic has been reckoned to be only 50 percent of the 1989 levels and this may correspond with the average vehicle kilometer figures for 1994, the estimated average traffic increase for 1997 - 2000 is considered to be too high. The exception to this last point may be on some of the transit routes. For example, traffic counts that have been carried out on the M17 between Kiev and Chop indicate that traffic has increased from about 9,000 vehicles per day in 1995 to between 12,000 and 14,000 in 1998. If border formalities are eased, this growth will likely continue. Although during the first quarter of 1998 traffic on all modes was reported to have grown, there is little evidence that this is the start of a sustained recovery.

**7.9 Impact of Road Condition on Transport Cost.** The serious deterioration of the system has led to considerable increase in transport costs, which, in turn, may well create an important barrier to economic activity. In the case of agricultural access roads, it is estimated that as much as 40 percent of production may be lost in some years due to the poor level of access. The following Table 7.4, based upon a 1995 study indicates for different types of vehicles the effect of increasing road roughness on vehicle operating costs (VOC). These figures indicate that in 1995 prices, if the average level of roughness is IRI 5 compared with an attainable level of IRI 3 annual road transport costs will be more than US\$566 million higher. With continued road standard deterioration, this situation can only have worsened since 1995 and will continue to do so until resources are increased to an adequate level.

**Table 7.4. Vehicle Operating costs in Relation to Roughness**  
(US\$ million)

IRI Roughness	Cars	Minibus	Bus	Truck 2 Axle	Truck 3 Axle	Trck & Trailor	Articulated	Total
3	2895	244	664	2030	947	481	587	7847
4	3007	256	673	2110	981	496	608	8131
5	3121	269	684	2182	1016	512	629	8413
6	3235	282	698	2268	1052	529	651	8716
7	3375	296	712	2348	1089	546	674	9041
8	3516	313	730	2434	1126	563	697	9379
9	3686	329	749	2520	1162	581	721	9747

**7.10 Road Safety.** Ukraine appears to have an exceptionally bad record as regards road safety. Not only is the rate of accidents, whichever way it is measured, very high but also, if official statistics are correct, the severity of accidents is alarming. In 1993, 7462 fatalities occurred (equivalent to a jumbo-jet crashing every 12 days) and 43,453 people were severely injured in Ukraine. The fatality rate per accident was about 0.18 or about four times the rate in the United Kingdom. In 1997, there was a reduction to 5,988 fatalities and 41,964 serious injuries and a fatality rate of about 0.16 but during this period there had been a substantial fall in the volume of traffic. In Ukraine, there were about 7.3 fatalities/10,000 vehicles compared with 5.3 in Brazil, 2.8 in New Zealand and slightly over 2 in Britain. Not only does this represent an unacceptable level of human suffering but also a large economic cost which could reach US\$1 billion annually. One probable reason for the high fatality rate is the shortage of suitable emergency services, especially ambulances and paramedics, leading to potentially lethal delays in victim treatment.

**Table 7.5. Road Accidents**

Accidents	1993	1994	1995	1996	1997
Total	40,759	42,252	43,152	40,088	37,944
Fatal	7,462	7,560	7,530	6,631	5,988
Injured	43,453	45,881	46,943	44,101	41,964
On Main Roads	2,466	2,845	3,062	2,715	2,599
On Local Roads	4,371	4,756	5,113	4,686	4,510
On Other Roads	6,374	5,246	5,786	5,450	5,095
Kiev & Oblast Centres	11,179	12,183	13,347	12,331	11,999

**7.11 Road Construction Industry.** The structure of the construction industry is in a stage of transition from entirely state control to much greater private participation. The state road maintenance structure is also being rationalized and it is possible that the number of oblast/regional road maintenance units will be reduced from about 40 to 32. There are now 68 joint stock companies of various size and reputedly capable of carrying out road works and maintenance. Of these companies, 45 were originally state owned whilst the remainder were attached to other organizations and formed joint stock companies partly in order to protect their positions in a low demand situation. At present, with the low level of investment and economic activity, it would be unrealistic to expect quick progress in privatization although the authorities accept that privatization will, eventually, be the route to follow. Maintenance and construction costs in the roads sub-sector are higher than would be expected and, although some of this may be due to the over-sizing of some road geometry, increased privatization and competition would lead to lower prices. This applies in both the state and urban road sectors. Apparently no companies from CIS or FSU states operate in Ukraine, although it is proposed to introduce competitive bidding for road works when resources and the size of the road program permit. The introduction of foreign contractors may require changes in legislation.

**7.12 Technical Issues.** There are some important and immediate technical issues to address in Ukraine. In particular, it may be advisable to (a) review road maintenance methods and technology; and (b) investigate the adequacy of specifications and the supply of materials.

**Surface Dressing.** Approximately 56 percent of the paved state road network is surface dressed and observation indicates that this is frequently in poor condition with stripping of the aggregate and cracking permitting the penetration of water. Enquiry in other parts of FSU as well as in Ukraine shows that surface dressing lasts a relatively short time - 2 to 3 years - before it has to be repeated. On the other hand, in western European countries, and other countries that have severe weather conditions, a surface dressed road, even carrying high traffic flows, will last commonly 7 to 10 years before a new treatment is required. This results from several factors among which the quality (specifications) of the bitumen used, the cleanliness of the aggregate and the level of supervision. If the life of surface dressed roads could be increased to western European levels; major savings in maintenance costs could be achieved, thus permitting a higher level of overall maintenance even within the existing budget. Even if it became necessary to import suitable bitumen at a somewhat higher cost it would probably still be cost effective. Moreover, improvements could be achieved in a relatively short time.

**Patching.** Patching is an essential part of road maintenance and as the roads continue to deteriorate it becomes more important and consumes more resources. It is possible that some improvements

could be made at relatively low costs and would lead to savings. In particular, many patching units (apart from working under very dangerous conditions) have no compaction equipment and largely rely upon traffic compacting the patch. In addition to this method of uncontrolled compaction giving poor results, there is also a loss of bitumen mix: both these factors lead to increased costs. The procurement of simple compaction equipment for each unit or the improvement of cold mix patches would solve much of the problem, and it is recommended that specifications for such equipment should be prepared and its procurement put in hand.

## Reform of Road Financing

7.13 **New Road Financing Law.** The Government has planned that a new road financing and road user charging system will be progressively introduced during the period 1998 to 2000. It will generate sustained funds (Table 7.6) for road maintenance, rehabilitation and high priority construction needs albeit not reaching the needs as estimated under the EBRD study (Table 7.7). The draft Law on Road Financing proposes to phase out the tax on enterprise turnover over a five-year period and increase correspondingly road user charges, namely fuel excise charge and vehicle ownership charge to cover the maintenance and rehabilitation of the network. Were such a reform not introduced, there would be a serious decline in the already small roads budget. The proposed system simplifies the revenue collection and directly relates road use to cost recovery. In order to succeed, the new revenues must be rigorously collected and the road user must clearly perceive that the levies and taxes go directly to road improvement and maintenance.

**Table 7.6. Comparison of Existing and Government Proposed Revenue Collection Systems**  
(US\$ million)

	1998	1999	1999 - 2000	2001	2002-2004
Central Gov. Subs					
Turnover Tax	488		277	173	
Tax on Operators	11				
Motor Fuel Levy	31		143	203	305
Vehicle Ownership		63	66	103	109
Transit Fees					
Other Tax & Subs.	14	204	117	117	117
<b>Total</b>	<b>545</b>	<b>267</b>	<b>602</b>	<b>597</b>	<b>531</b>

**Table 7.7. Proposed Revenue Collection Systems under EBRD Study**  
(US\$ million)

Source of Funding	Proposed System			
	1997 - 2000			2001-2005
	50% Recovery	75% Recovery	100% Recovery	100% Recovery
Central Gov. Subs	0.00	0.00	0.00	0.00
Turnover Tax	766.70	383.00	0.00	0.00
Tax on Operators	0.00	0.00	0.00	0.00
Motor Fuel Levy	315.70	477.50	633.00	717.30
Vehicle Ownership	450.90	672.80	900.30	940.30
Transit Fees	0.00	0.00	0.00	0.00
Other Tax & Subs.	0.00	0.00	0.00	0.00
<b>Total</b>	<b>1533.30</b>	<b>1533.30</b>	<b>1533.30</b>	<b>1657.40</b>
<b>Required</b>	<b>1533.3</b>	<b>1533.3</b>	<b>1533.3</b>	<b>1657.4</b>

**7.14 Issues related to the Proposed Road Financing Reform.** With insufficient funding, inappropriate management and negative incentive for environment protection, the new law falls short of expectations. The new proposed legislation would secure only a fraction of the appropriate level of funding (Tables 7.6 and 7.7). Passage through Parliament may be difficult, especially as regards the increase in vehicle ownership duties, which is considered a social issue. However the level of road user charges needed to maintain the road network would increase the short term cost of road use only by about 5% (Annex 7.1) for light vehicles, showing that the rejection of such mechanism on social ground is ill founded. The proposed road financing system envisages the revenue being paid into a special account in the Treasury but with no safeguards that funds will be used for their declared purpose. In addition no road fund board involving main private and public parties has been proposed. The last issue relates to the levy on fuel, which would apply uniformly to all types of fuel, leaving leaded petrol and diesel at a considerably lower price than unleaded petrol. For environmental reasons, a program to correct this situation should be prepared following the pace of economic recovery.

**7.15 Local Road Financing.** The proposed system does not address the issues of urban and agricultural roads, which should be the subject of special studies. Although the complex financing of urban networks is probably going to be revised, no plans have yet been drawn up, and this should receive urgent attention in association with the reform of the public transport services. In the case of agricultural access roads, although the interface with the local and main road networks requires special attention, the entire sub-sector should be the subject of a dedicated study leading to an economic, social and environmental evaluation. This could lead to the preparation and financing of a program of works and institution building.

**7.16 Private Finance.** The draft Law on Concession for Reconstruction and Construction of Highways (346) would make possible the creation of road concessions awarded on the basis of competitive tendering and evaluation of financial and technical proposal. Concessioning period could spread over up to 45 years. The concession would be financed by the levy of tolls, and possibly development rights along the road. Suggestions that private finance may be attracted for road improvement or construction, with investors recouping their investment/profit through tolls, are unlikely to be realistic in the current politico-economic situation and low levels of traffic flow. However, if such a scheme were to be put forward, properly funded, well designed and with transparent contractual arrangements it should not be opposed provided it did not reduce financing for other priority projects.

## **Recommendations for Road Infrastructure**

**7.17** The key issues to be addressed in road infrastructure in Ukraine relate to: (i) the need for a sustainable financing system that enable the provision of the needed level of road maintenance and rehabilitation; (ii) the need for an independent management of road financing proceeds; (iii) measures to improve resource allocations on the basis of economic evaluation; (iv) reduction in the unit maintenance cost of the network; and (v) improvement of road safety.

**7.18 Introduce a sustainable Road Financing System based on Road User Charges.** The proposed cost recovery system should be strengthened to enable the collection of resources close to the estimated needs to maintain and rehabilitate the network and be financed by road user charges that reflect the use of the network. The new system would abolish the existing tax on

turnover of commercial enterprises as a road financing revenue source and replace it with an increased Fuel Charge covering the variable network use cost and with a Vehicle Ownership Charge covering the access to the network and uncovered axle-related variable costs. The charges should apply to all road users without exception and represent the cost of their use. A simulation (Table 7.8) indicates that the cost of these road user charges would be minimal compared to the current vehicle operating costs. In addition the benefits raising from improved maintenance would more than compensate these minimal additional costs. An awareness campaign explaining to the Ukrainian population the use of these new charges should accompany the introduction of the new system. In the meantime, the proposed legislation should be processed through Parliament as a matter of economic urgency. The reform of the urban road funding system should be revised in parallel with the reform and rationalization of urban transport and the growth of private bus companies. A dedicated agricultural access road program which could yield significant returns should also be evaluated, designed and implemented: it is reported that actions in this area are being taken under a TACIS funded project but it has not been possible to confirm this.

7.19 On the basis of the proposed reforms, indicative financial cash flow projections (see Table 7.8 and Tables 7.2.1 to 7.2.3, Volume III: Annexes and Statistical Appendix) based on international experience were developed in line with the financial adjustments proposed. The actual funds required for maintenance or rehabilitation would be determined by the Road Fund Board decision on the appropriate cut-off rate of return for road works<sup>14</sup>. Financial forecasts were built on demand projections and assumptions for Fuel Levy and Vehicle Ownership charges under the *Complete Reform scenario* (see Chapter IV). The road user charges taken into account are those computed to maintain the existing network in its present condition and cover part of the maintenance backlog. These charges would enable to reach a sustainable yearly financial equilibrium between sources and uses of road infrastructure funds, on the basis of the actual road network, by year 2005. The implementation of lower charges would require reconsideration of the size of the road network, the introduction of alternative financing mechanism<sup>15</sup>, and imposition of strict economic prioritization process in the allocation of limited financial resources.

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<sup>14</sup> If the Road Fund Board decides that a cut-off rate of 20% applies – meaning that the economic rate of return for all road works should exceed 20% to be undertaken, financial needs will be evaluated accordingly. Sections with lowest traffic and/or highest cost of repair won't receive any treatment until they become economically attractive.

<sup>15</sup> Mechanisms such as the creation of Private Road Associations has proven to be a sound solution of managing local roads.

**Table 7.8. Ukrainian Road Fund - Summary Cashflow Projections (US\$ mln)**  
 -- Based on revised UKRAVTODOR's and EBRD Study maintenance budget estimates --

	1997 *	1998	1999	2000	2001	2002	2003	2004	2005
Road Network in 000'kms	172	172	174	176	177	180	182	185	187
<b>Sources of Funds</b>	<b>405</b>	<b>554</b>	<b>1,354</b>	<b>1,261</b>	<b>1,199</b>	<b>1,300</b>	<b>1,414</b>	<b>1,539</b>	<b>1,675</b>
of which:									
Budget Allocations	9	-	-	-	-	-	-	-	-
Divestiture from Turnover Tax	352	488	350	245	172	0	0	0	0
Fuel Levy		31	346	352	357	524	576	633	697
Vehicle Ownership			658	664	671	776	838	905	978
Other	44	25							
<b>Applications of</b>	<b>1,200</b>	<b>1,152</b>	<b>1,401</b>	<b>1,353</b>	<b>1,310</b>	<b>1,476</b>	<b>1,528</b>	<b>1,572</b>	<b>1,617</b>
of which:									
Routine Maintenance		248	233	219	205	213	221	229	237
Periodic Maintenance		824	774	727	683	708	734	761	789
Rehabilitation			314	326	339	471	487	494	501
Road Administration.		80	81	81	82	84	86	87	89
<b>Surplus Funds</b>	<b>(795)</b>	<b>(598)</b>	<b>(47)</b>	<b>(93)</b>	<b>(111)</b>	<b>(176)</b>	<b>(114)</b>	<b>(33)</b>	<b>58</b>
Closing Cash Balance	(795)	(1,393)	(1,440)	(1,533)	(1,644)	(1,820)	(1,934)	(1,967)	(1,909)

\* Actual, 1997.

7.20 **Establish a new Road Fund Entity.** The introduction of the new road financing system should be accompanied by the creation of a new type of Road Fund. The Road Fund should include a small secretariat and be managed by an independent board constituted of representatives of the road transport industry, road users, government and of the road administration. The Board should, annually, set up road user charges at an appropriate level to cover maintenance requirements and should have the authority to increase or reduce road maintenance expenditures based on actual needs. Road user charges should be collected in a special account and redistributed to Ukravtodor and the Oblavtodor on the basis of agreed expenditure priorities prepared following economic evaluation. The Road Fund should be submitted annually to external technical and financial audits, both of which should be made public.

7.21 **Establish a Pavement Management System.** In the absence of additional financial resources for road works a rigorous program of priorities needs to be established taking due note of vital economic and social links. Systematic use of economic analysis should be introduced as a basis for selecting the most appropriate resource allocations and notably review the balance between maintenance and new road construction. At a national level, a pavement management system should be established to determine the required levels of road financing and corresponding road user charges. The pavement management system would include data on traffic, network condition, unit cost, impact of different treatment, and road user cost to enable the determination

of appropriate user charges and ensure proper allocation on the road network. In order to permit better estimation of present and future road needs, and to obtain more reliable forecasts of potential revenue yields, up-to-date traffic censuses and an audit of the national vehicle fleet should be carried out. In addition, statistically designed survey of vehicle weights and axle loads should be undertaken. Based on the results of the survey, design specifications for bridges and roads should be reviewed and a program of works prepared for addressing problem areas. Necessary legislation could be prepared under the proposed review of construction and use regulations (par 7.29). This information should be made freely available for forecasting the size of potential needs and sources of finance for road works. The establishment of the pavement management system should be linked to a reclassification of the road networks reflecting the shift in traffic that has occurred since independence.

**7.22 Reduce Unit Costs.** The maintenance costs of the network should be reduced by the introduction of international competitive bidding for periodic maintenance, and the outsourcing of routine maintenance by local bidding, combined with a clear separation of road construction companies from the road administration. These contracts should include detailed technical specifications and be monitored on behalf of the administration by an independent consultant selected by competitive bidding. A study should be undertaken to review and compare Ukrainian road construction and maintenance costs and methodologies with those in other countries and Western Europe to investigate possibilities for improvement. Urgent, probably short term, technical assistance should be sought specifically to examine surface dressing procedures and the quality of materials, especially bitumen. The process of privatization in the construction industry requires to be reviewed and planned in relation to market conditions and a system of classification of companies in relation to their capabilities and resources introduced

**7.23 Road Safety Improvement.** A review of accident reporting and recording systems should be undertaken to ascertain that appropriate data are available for analysis, and special training should be given to members of the Traffic Police to do this. A system of continuous monitoring of the accident situation and the results of remedial measures should be undertaken. If necessary technical assistance should be sought to assist with this analysis and the preparation of road safety measures that, initially, focus on high risk groups (e.g. children), frequent causes (e.g. vehicle condition, alcohol) and road accident black-spots. Accident emergency services should be upgraded in order that treatment of accident victims can be carried out in an appropriate time.

## **B. Road Transport**

**7.24 Privatization Process.** Although progress has been made in privatizing the state owned transport system administered by the Road Transport Department of the Ministry of Transport (UKRAVTOTRANS), there is a lack of detailed information on the subject. It was, unfortunately, apparent during the course of the mission that in this, and other fields, the authorities have been less than forthcoming regarding the release of information important for defining issues and proposing solutions. Resolution number 261 of February 29, 1996, governing the operations of UKRAVTOTRANS still appears to maintain strong central government control on the industry. This, despite the reported 85 percent privatization of the former government freight fleet, seems to endanger the objectives of privatization and the development of an active and productive transport sector.

**7.25 Structure of the Road Industry.** UKRTRANS is the dominant trucking enterprise and its 19 subsidiaries cover the whole country. Its capital is owned by the State (51 percent) and by a collection of previously existing transport organizations (49 percent). Its principal customer is the State, and it provides complete door-to-door service (transport, storage, customs clearance, etc.). Its main activity focuses on complete or consolidated shipments between Europe, Ukraine and the Caucasus. It owns a fleet of 200 Renault trucks, but only 20 refrigerated trailers.

**7.26 Trucking Industry.** There is growing private sector activity in the road transport industry, particularly in international traffic. The Ukraine Association of Road Carriers was set up in 1992 and now has about 750 members (plus 10 associated members dealing with passenger traffic). The total vehicle fleet of the association's members is about 10,000 of which about 50 percent are of western European manufacture. Many of these vehicles are leased and this is being extended. The Association is the only organization issuing TIR carnets and this should be kept under review to avoid abuse. The nearest to privatization in the state sector is a joint stock company UKRINTERAVTO, which has 1,350 employees, operates its own fleet of freight and passenger vehicles on a commercial basis and is involved in controlling international permits, collecting transit taxes, freight forwarding and driver training. In 1997, it is reported that Ukraine trucks made approximately 180,000 international trips and foreign trucks made about 300,000 border crossings - this was a reduction, however, from about 400,000 in 1996 reflecting the general slowing down of the economy. The international carriers main problems appear to be delays in border crossings, poor facilities for drivers, difficulty in obtaining bank financial backing for renewal of the vehicle fleet through purchase or leasing and the poor condition of the roads on international routes. Data on private domestic carriers are limited, but estimated at about 9,000 "own account" drivers using mainly small and old trucks of FSU manufacture.

**7.27 Interurban Passenger Transport.** The state fleet (Road Transport Department of the MOT) still mainly operates interurban bus services. Legislation (Resolution Number 1346 of the 2nd November, 1996) was approved in 1996 to "privatize" inter-city and regional bus services. The thrust of this Resolution is to put out services for public bidding but as far as the mission has been able to find out little or no progress has yet been made. The mission also has some problems with certain details of the Resolution, which may limit the fairness of bidding and competitive fares. The government may wish to review it and possibly make some amendments.

### **Recommendations for Road Transport**

**7.28 Freedom of Entry.** The freedom of entry and operation within the road transport industry should be reviewed on a regular basis by an independent body rather on the lines of the "Ombudsman" system used in the United Kingdom.

**7.29 Road Regulation Review.** With the increasing number of large foreign vehicles using Ukrainian roads new appropriate construction and use regulations should be drawn up in co-operation among the Roads Corporation, road users, vehicle suppliers and the Traffic Police.

**7.30 Improved Border Crossings.** Border crossing and customs facilities should be studied in detail and modernized: drivers' facilities and financing could be left to the private sector to resolve.

7.31 **Resolution 261 Review.** Measures should be taken to review and, if necessary, amend the provisions of "Resolution 261" to increase the independence of the transport industry and to permit it to respond flexibly to transport demand in a cost-effective way.

7.32 **Audit of State Vehicles.** As part of the program of privatization of the state owned transport organizations, a detailed audit and asset revaluation of state vehicles and support facilities should be undertaken.

7.33 **Resolution 1346 Review.** Measures should be taken to review and, if necessary, amend the provisions of "Resolution 1346". Paragraph 10 defines the Ministry of Transport, as "customer" for international bus services and this may be too restrictive and cumbersome, thus mitigating against competition. Paragraphs 23 and 29, dealing with bidding procedures, the opening of bids as they arrive and the ability of bidders to change their bids after submission is contrary to the practice in most countries and international agencies and would lack transparency. It appears that the "customer" would retain responsibility for fixing tariffs but this would be better if left to the competitive bidding process. There is no mention of the length of contract, which would have an important impact on the bidding procedure and the level of service provided.

7.34 **Driver Training and Information.** A training program should be established with the participation of foreign instructors for Ukrainian transportation workers operating nationally or internationally to make them familiar and conversant with conditions, procedures and techniques prevailing in market-based economies. These training activities could be supplemented with on the job training of qualified transportation personnel in transportation firms of Western Europe. Transportation teaching materials should be translated in Russian or Ukrainian. Well publicized information systems, frequently updated, broadcast on national or commercial radio networks, should be established to warn drivers of delays at various border-crossings in various languages. It could help drivers identify busy border-crossings and re-route to newly opened and more efficient corridors. The design of border crossings should be improved to enable drivers to switch to alternative customs posts with sufficient flexibility, thus reducing waiting time. Appropriate information and instructions regarding allowance for fuel carried should be provided to drivers before departure to avoid delays related to "dipping the tanks" in customs areas.

### C. URBAN TRANSPORT

7.35 **Current Situation of Surface Transport.** In the larger cities, where 80 - 90% of the population regularly uses public transport (mainly trolley buses), private buses are becoming common. In Kiev, approximately 85 percent of the buses are private and provide a higher standard of service at premium flat rate fares of 50 kopecks compared with 30 kopecks for the city services of buses, trams and trolley buses. The city services continue to lose money since revenues cover only 50% of cost. There is a steady physical depreciation of capital assets of vehicles and infrastructure. If this continues there will eventually be a breakdown of services, which will impact upon users much more than an increase in the level of fares, especially those with limited resources. Simultaneously, private companies suffer different kinds of constraints: various licensing procedures, illegal "technical" checks at their sites (as a result buses cannot be used for days), 100% import tax for new buses and equipment, forced payments to different funds.

7.36 The regulatory framework is very confusing. A tender committee has been established, but the system never worked in practice. Actual ownership of buses and material is required for potential candidates that provide services (without knowing that their bid is successful). From the city of Izmail, it was reported that operators with winning bids again lost their license afterwards. Operators also had to deal with licenses which were suspended as long as no payments were made to police funds (business report, 21-12 1997). In Kiev, the situation remained chaotic after tendering procedures granted exclusive rights. Everybody owning a vehicle could still provide services on routes "exclusively granted". Officially the operator has to purchase a license (and pay for it) but from April 29, 1998 all licenses have been abolished. The current situation in Kiev with no licensing system at all, is not satisfactory.

7.37 **Metro.** Currently the metro (underground) systems are part of the Ukrainian railways and their standard of service has been maintained at a satisfactory level. The financial position also appears to be healthier than other forms of public transport although very few data are available. Arrangements are currently being made for the metro to be transferred to the responsibility of the municipalities who will provide management and finance for operations should this be needed. New construction will be financed by the central government. During this reorganization, consideration should be given to some degree of privatization. It is unlikely that complete privatization would be accepted, but the option of franchising the services whilst the municipalities retained control of the infrastructure may be possible.

7.38 **Poor Financial Performance.** Since Independence, financial resources for the urban transport have declined sharply. Fare-box revenues are a declining fraction of operational costs, leaving provisions for depreciation, rehabilitation and/or renewal of the fleet uncovered. Actual fare-box revenues taking into account non payment of fares and privilege travel are estimated to cover less than 50% of the actual normalized operating costs of urban transport for Trolley-Buses, Tramways and Buses, at the national level. The financial situation for the Metro transport services, which, managed by the Railways, cover three major cities in the country (Kiev, Dnepropetrovsk and Kharkov), is slightly better. Tariffs allow for coverage of the actual operating cost but do not contribute sufficiently to a sound and sustainable assets replacement and modernization policy.

7.39 **Main Financial Issues.** The poor financial performances are due to four main issues. First, fares were not increased in proportion with actual costs, in particular for fuel expenses. Second, the protected exemption system leaves about an estimated half of the urban passengers free of any financial contribution. Third, general subsidy funding systems in Ukraine have prevented users from perceiving the true cost of an efficient transport service and, therefore, has created a business climate, which is not a catalyst for private transport operator involvement. Finally, central and local governments' subsidies have shrunk drastically in the recent years, accelerating the deterioration of the financial and physical situation of the sector.

## Recommendations

7.40 To turn around the urban transport sector management in response to growing passengers' demand and need for better services, with a more cost effective impact, several actions need to be taken. The principal ones are to (i) build institutional capacity within local governments to plan, regulate and develop contractual relationships between municipalities and private transport operators; (ii) induce and support financially sustainable cost recovery policy and

measures for public transport; and (ii) maximize the role of the private sector in the urban management of transport operations and support services;

**7.41 Improve Public Operations.** The seriousness of the situation is appreciated by the authorities and they are currently developing a policy to tackle the issues. Central to this is the objective of increasing revenues in parallel with improving services. To this end, legislation aimed at eventually abolishing the privilege fare system (under which as much as 50 percent of the population travels free) has been prepared and submitted to the cabinet. If this action could be enforced, and the 10 - 20 percent of fare avoidance prevented, the financial situation would be vastly improved. Nonetheless, such action is likely to be met with considerable opposition and may require a phased introduction supported by a well-prepared publicity campaign. As part of this proposed policy the urban transport authorities may consider replacing part of the privilege travel with reduced fares for certain categories of passenger during off-peak hours: this may have the effect of improving the quality of travel as well as generating additional revenue.

**7.42 Facilitate Private Operations.** Deterioration of public transport services is partly solved by initiatives from the private sector. However the authorities' attempt to prevent other operators from entering the market leads to an ineffective competition between public enterprises, joint stock companies and private enterprises. Without a licensing system there is no guarantee that operators comply with minimum standards with regard to safety and environmental standards. Any licensing system should however not be abused to prevent private operators entering the market. Rather than preferential fares, direct income supplements are the welfare maximizing solution to social problems. Any system of free transport for certain categories of users (not recommended), should be clearly identified and evaluated in the financial reporting and should reimburse on a weekly basis private operators forced to join this regime.

**7.43** Similar to the relationship between road user charges and road maintenance discussed above, road users are less likely to object to paying higher fares if they see this leading to a higher quality service. The Kiev private buses support this view. A USAID urban transport project has been effective since 1991 in improving the sustainability and quality of trolley-bus services in nine cities. There has been a very positive customer feedback. The project comprised a \$US 1 million grant with matching city funds and financed commercial training, procurement of parts and equipment, improved maintenance operations and automation and computerization of management and route planning.

**7.44** Perhaps the most significant outcome of the USAID project is the clear evidence of the public acceptability of increased fares in order to have access to services which otherwise would disappear. As a result the bus and trolley bus fleets in these cities have grown (nationally the fleet has contracted 60% since independence) and revenues have risen on average by 16% and the need for subsidies significantly reduced. It should be noted that smaller cities managed their transition much better than bigger ones, possibly due to less political interference and greater public awareness. An important objective is the self-sustainability of operations and there are still many opportunities to expand the scheme. However, it is important to point out that bi-lateral and multi-lateral lenders/donors are unenthusiastic about lending to state/local government controlled enterprises. As the USAID project is scheduled to finish at the end of 1998, the Bank would recommend an extension or the identification of other sources of similar finance and advice.

## 8. RAILWAYS

### A. The Ukrainian Railway System

8.1 **Organization.** The State Administration for Railway Transport in Ukraine (Ukrzaliznytsia (UZ)) is responsible for the administration of all railway functions in the country, including safety, construction and design standards, operating practices and finances (Annex 8.1). UZ is a 100% state owned entity. As in most FSU countries, UZ includes many ancillary activities<sup>16</sup>. Within UZ, the Transport Enterprises Group represented almost 90% of activities. This group was made up of 49 enterprises and holdings in January 1998 down from 68 in 1997. The transport group includes six regional railways and three freight forwarders. The remaining entities fall into three general categories: i) railway supply and technical support enterprises; ii) railway social service enterprises; iii) urban metros (Kiev, Kharkov, Dnepropetrovsk), the three subway systems, although part of UZ, are quite independent of the other UZ enterprises.

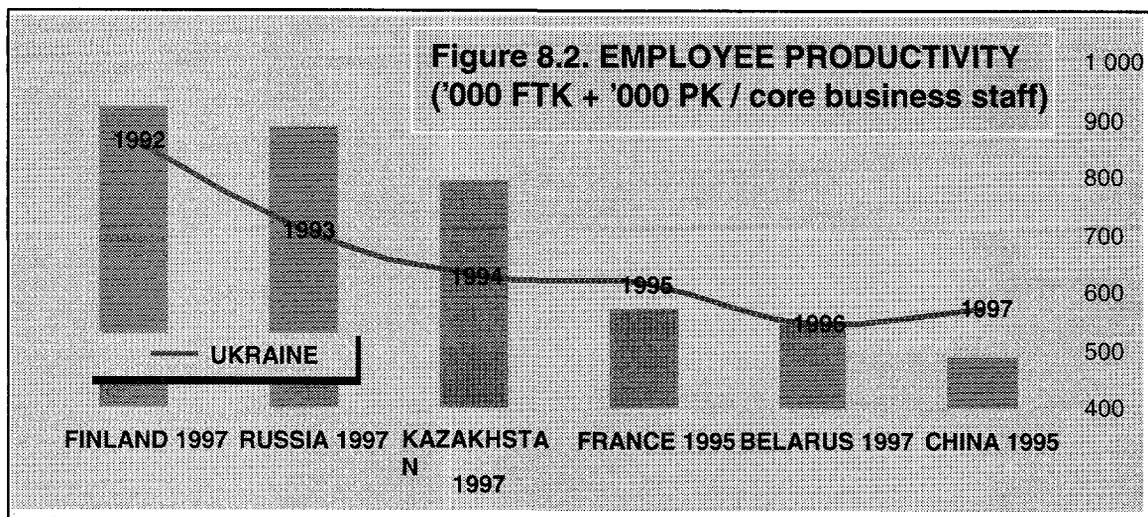
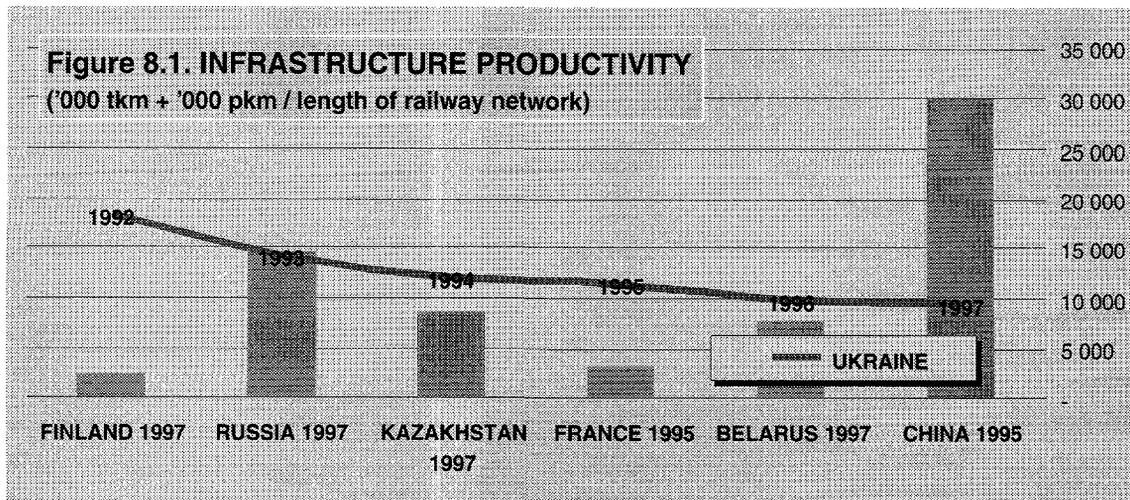
8.2 **The Largest European Railway.** UZ is one of the largest railways in the world and the largest railway organization in Europe in terms of employees, technical mass and tonnage performance. Ukrainian railway network is the most dense among large industrial and emerging economies. UZ activities perform 80% of total cargo carriage and 60% of passenger carriage in Ukraine thus representing major contribution to national economy. The total of assets involved in the railway activities, represents more than 40% of the total national transport assets, all modes together totaling 9% of all assets of Ukraine.

8.3 **Staff.** In 1997, UZ was staffed with more than 525,000 people: nearly 400,000 were involved in Railway Transport Services (including industrial activities, mostly manufacturing), 11,000 in urban metro services, 10,000 in schooling activities, 36,000 in health services, 35,000 in railway industry operations, 21,000 in trade transactions. About 300,000 employees are involved in the Railways core-business. UZ is constituted in a large number of enterprises and establishments. Average salary in 1997 was 200 Hr (\$US 100) a month and is higher than in most of Ukrainian public services.

8.4 **Dropping Productivity.** Organizational and technical capacity of UZ, which reached its optimum (defined as FSU railways and industry standard) by 1990 and was designed to accommodate 500 billion ton-km and 70 - 80 billion passenger-km, has not been adjusted to the significantly lower (3.5 times) level of services demanded by the market today. In average, only 12% of employees in core activities and 15 - 20% of rolling stock have been laid off; spin-off of infrastructure is insignificant. As a result of idle capacity and heavy and inefficient organization, performance indicators continue to grow less.

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<sup>16</sup> such as urban metropolitan-subway services in Kiev, Kharkov, and Dnepropetrovsk, railway design bureaus, material manufacturing, food production, and a large variety of social services such as school, hospitals, restaurants and other activities for railway employees



**8.5 Railway Assets.** While railway assets exceed current demand, there is a need for technological upgrading. UZ has assets valued at approximately US\$16 billion spread over its six geographically subordinated (not organized by corridors) regional railways. These assets, acquired to serve the high traffic level of 1990, have not been rightsized to fit to present traffic demand.

**On the one hand,** UZ can operate from a technical perspective another 7 – 10 years without major investments carried out in infrastructure and rolling stock. The assets includes inter alia 1,800 stations, 22,700 km of main track and 555 km of European gauge track, 801 locomotives for freight and 933 in passenger services, 200,000 freight wagons and 10,000 passenger wagons. 8,400 km (35%) of track is electrified.

**On the other hand,** UZ telecommunication network is old fashioned (95% analog lines) and obsolete. UZ is insufficiently computerized and is no different from most of the FSU railways. EDP and availability of EDI instruments are only represented in centralized in-house statistical production. *Any large investment in railways should be preceded by upgrading the data processing capability and decision making tool available in UZ.* A more detailed description of UZ's assets is given in Annex 8.2.

**8.6 Good Technical Capacity.** General quality of technical capacity of UZ remains good and clearly above average compared to most of the other FSU railways. Average and high end speeds for both passenger (50 – 60 km/h) and freight services (40 km/h) are satisfactory for FSU railway standards despite shortage in investment resources and budgetary funding during last five years. UZ is still driven by engineers and not by managers with economic and financial background. UZ has remarkable hidden reserves available and idle technical capacity, which could allow the State and management of the company to economize and rationalize UZ activities without a risk to jeopardize current performance levels. It would provide a solid ground for successful launch of radical restructuring, commercialization and privatization activities for UZ.

**8.7 Controversial Legal Status of UZ.** The current legal framework prevents UZ from performing either *de facto* or *de jure* as a company on the market. The institutional status of UZ is defined in the Ukrainian Railway Law from 4 July, 1996. UZ is a State administrated institution under the MOT. The General Director of UZ is also first deputy Transport Minister and a cabinet member. The above law, designed to accommodate rapidly changing economic situation, enables the State to influence tariffs, interfere in negotiation between UZ and its client, and forces UZ to offer social benefits to a wide part of the population. **UZ is an entity of governmentally planned losses.**

**8.8 Social Burden.** UZ is required to offer social benefits to its employees, cross-subsidize passenger services with freight services, to allow privileged and/or discounted fares to a large part of the population and support to the economy. In 1997 estimated lost revenues from discounted fares and other social benefits totaled to more than Hrv1 billion. In addition, the political agenda of the Ukrainian government has forced UZ to accept and carry indebtedness (in the form of dubious collectable receivables) from the industrial sector (coal) to support it. It is notable that Ministries instead of companies are in charge of handling settlement of overdue receivables and indebtedness between large state companies.

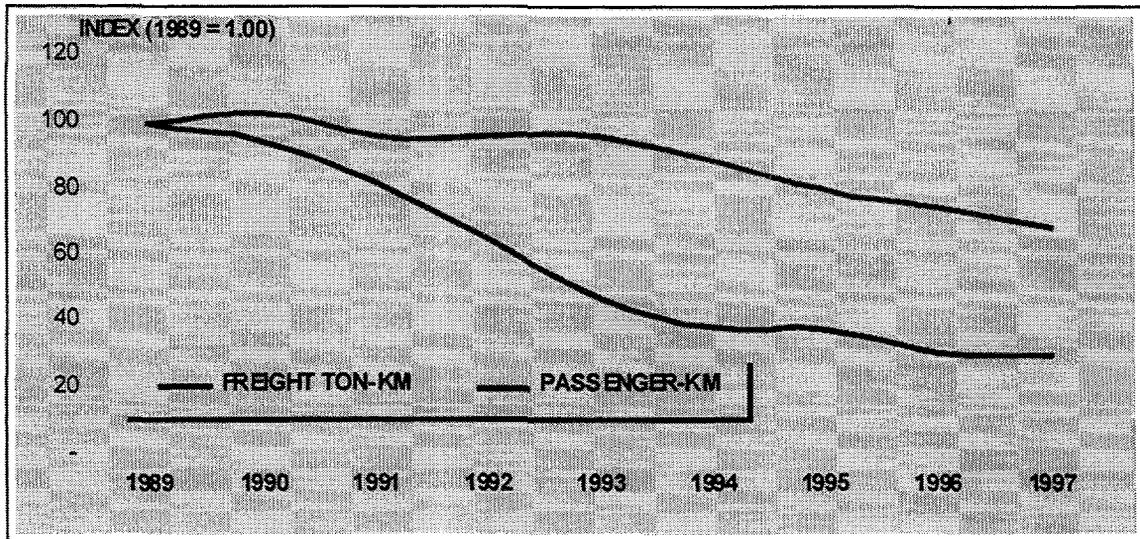
**8.9 Environmental Impact.** Environmental pollution and its economic side-effect defined as cost to others is not recognized by UZ. Total contribution to pollution levels by UZ is significant due to its: size, aging equipment and FSU standards. In a situation in which low priority is given to environmental and other “soft” matters, and in the absence of investment funds in general, UZ’s contribution to environmental pollution will continue to grow in the foreseeable future.

## **B. Traffic Levels**

**8.10 Traffic Drop and Shift.** In 1997, freight volumes were about 65% lower than in 1990 at 160 billion ton-km, and passenger traffic 25% lower (Figure 8.3). These declines reflect the drop in overall activity in Ukraine, but also presage a changing economic role of rail transport. Central command economies used too much rail transport. UZ role in servicing transit flows to Russia and Asia has decreased as a result of intense FSU competition. Nonetheless international traffic represents 60% of UZ traffic. The most important traffic components in recent years remain coal and cokes, ores, black metals and construction materials, mostly on high travel distance (470 km on average). Container transport has dropped considerably, due to rather high cost, long lead time, lack of supporting logistical services and lack of consumer capacity. Railways transported 54

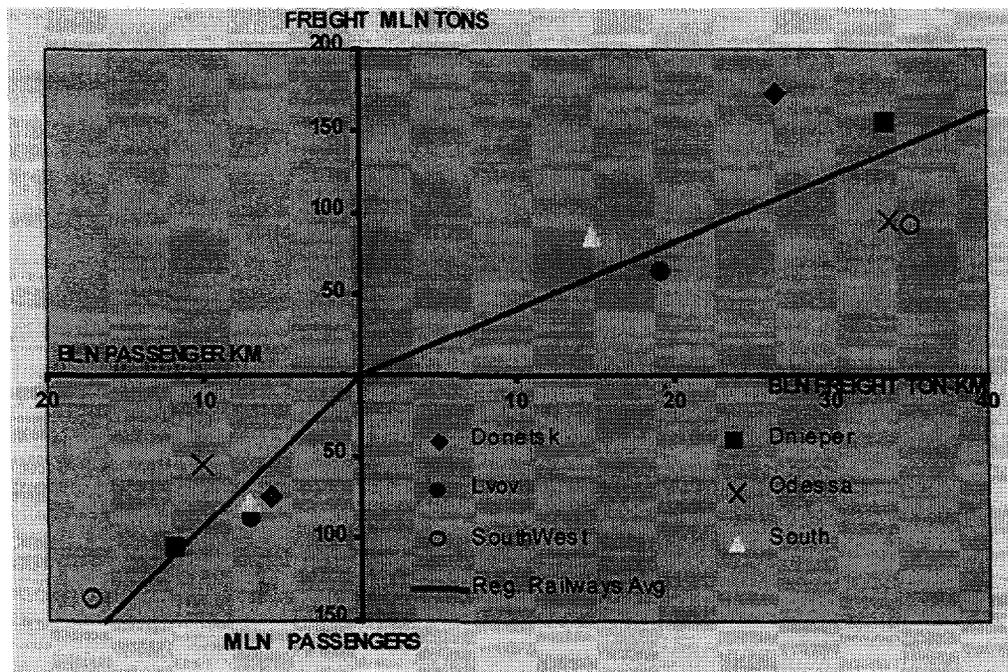
billion passenger-km in 1997, down from 81 billion in 1990. Traffic is analyzed in details in Annex 8.3.

**Figure 8.3. Traffic Evolution**



**8.11 Regional Railways.** Regional railways are organized geographically and contribute a little to each other in terms of industrial and operational synergy. All regional railways are consolidated economically. Regional railways differ significantly both in terms of physical characteristic and performance (Figure 8.4). The six railways are confronted with similar economic difficulties. Summary analyses for 1996 are provided in Annex 8.4.

**Figure 8.4. Comparison of Regional Railways**



### C. Financial Performances and Issues

**8.12 Inflationary Spiral.** Considerable declines in traffic levels and increasing costs, combined with non-realistic cost recovery mechanisms, have rapidly cut into UZ's financial performance. Despite its virtual monopoly on internal surface traffic, UZ has been caught in structural inflationary spiral well known in the railways elsewhere. The decrease in rail operation volume has caused productivity to drop, high level of immobilization on equipment and rolling stock and a poor absorption of fixed costs, which are traditionally high in the railway. Costs went up rapidly while government pressure, regulatory interventions and market forces have constrained tariff increases.

**8.13 UZ Group Distribution.** In 1996, UZ transport enterprises represented the core activities (about 90% of operating revenues and assets involved in UZ activities) of UZ (Table 8.1). The level of subsidies amounted to Hrv24 million (US\$ 12 million) mainly allocated to the urban metro systems (about Hrv18 million). UZ is not anymore compensated for the losses in the passenger traffic, even if tariffs are apparently still regulated by the government and is not compensated for the numerous social services provided to its staff.

**Table 8.1. UZ Financial Indicators (in million Hrv's):**

UZ GROUP	Operating Revenue*	Gross Operating Result**	Assets 01.01.97
Transport Enterprises	4 882.9	-175.8	27867.7
Urban Metro Systems	112.7	9.9	1 947.1
Manufacturing	327.5	48.7	992.5
Railway Shops	38.9	7.6	138.4
Construction Enterprises (repairs)	101.5	7.8	155.8
Design Bureaus	3.7	0.7	5.2
Construction (major works)	0.0	0.0	375.3
Materials. Stores & Distribution	5.9	3.3	64.4
Research Institutes	3.4	0.6	6.7
Catering & Trading	69.1	-7.4	179.0
Agricultural Enterprises	6.3	-0.5	86.2
Publishing	0.06	0	0.82
Medical Supply	3.7	0.2	7.6

\* Operating revenue (including subsidies, VAT excluded).  
 \*\* estimates

**8.14 Financial Evolution.** (Annex 8.5) For a similar level of traffic, the financial situation has worsened<sup>17</sup> between 1996 and 1997, showing increasing losses (more than US\$ 900 million in 1997), mainly caused by an exceptionally high yearly depreciation in 1997 (about US\$ 1.56 billion). In the case of UZ, the **cash flow is a more adapted performance indicator than profit**. The net cash flow remained at about the same level: Hrv 1.2 billion. Because of increasing barter practices in the collection of freight revenues, the actual liquidity of this cash flow has become extremely low. Considering the amount of funds involved one of the main issues remains the

<sup>17</sup> The operating conditions have deteriorated seriously: working expenses have increased by about Hrv300 million while revenue increased only by Hrv100 million. The operating result deteriorated even more dramatically moving from a loss of about Hrv500 million in 1996 to a loss of about Hrv1.7 billion in 1997.

adequate use of this cash flow, which, if not adequately used, would generate an important de-capitalization. It appears that an increasingly large part of these funds is used to finance important losses in the passenger activities, increasing receivables and inventories and social activities and investments for the railway staff.

**8.15 Freight Activity.** The freight activities are more or less in financial equilibrium. Financial sustainability of the freight tariffs will highly depend on the level of the appropriate yearly depreciation allocation and the appreciation of their economical and financial reality in the context of the actual situation of the railway. It is estimated that in 1996, the average cost per km was 1.6 Kopeck for average revenue generated of 2.1 Kopeck. In 1997, these figures moved to 2.1 and 2.2 (around 1 US cent per km) respectively.

**8.16 Passenger Activity.** The total amount of losses estimated for the passenger activities moved from about Hrv 800 million in 1996 to about Hrv 1.4 billion in 1997 (US\$700 million), representing about 2 times the passenger traffic turnover. For the passenger traffic, it is estimated that in 1996, the average cost per km was 2.4 Kopeck for average revenue generated of 1 Kopeck. In 1997, these figures moved to 3.7 and 1.2 (around US\$ half a cent per km) respectively, showing a loss of 2.5 Kopeck per unit.

**8.17 Cross Subsidies.** As the railway is not anymore compensated for these considerable losses, the freight operation and the profit on the other activities directly subsidize the passenger activities. This extreme situation, if it continues, would generate a rapid and irreversible de-capitalization of the freight segment business of the railway, whatever amortization policy is implemented.

**Table 8.2. Financial Highlights, Regional Railways of UZ,**  
for the year ended December 31<sup>st</sup>, in million Hrv's

	Donetsk	Dnieper	Lviv	Odessa	SouthWest	South
Operating revenue	886.9	926.6	727.5	713.8	871.7	644.9
Op. Result before Depreciation	109.4	78.1	103.3	97.1	147.2	122.1
Working margin	12%	8%	14%	14%	17%	19%
Net Operating Result (NOR)	- 51.6	- 48.2	- 14.4	- 41.8	- 48.8	- 22.3
Operating margin	- 6%	- 5%	- 2%	- 6%	- 6%	- 3%
NOR on freight traffic	90.6	110.4	67.6	73.2	95.5	104.8
NOR on passenger traffic	- 134.1	- 181.4	- 155.2	- 137.5	- 167.8	- 153.7
NOR on other activities	- 8.1	22.8	73.2	22.6	23.5	26.7
Assets (end of period)	4 992.8	4 357.6	4 554.7	4 727.8	5 223.1	2 879.2
Net fixed assets	4 725.7	4 077.0	4 327.6	4 538.4	4 743.4	2 647.5
State of wear	50%	56%	42%	35%	44%	43%

**8.18 Regional Railways.** The analysis of the financial performance of each of the six railways, performed for 1996, confirms that the main characteristics of the situation described are more or less the same in each of the railways. The situation in the Dnieper railway is probably more deteriorated than for the other railways.

## Financial Issues

8.19 **Depreciation.** The value of assets and corresponding depreciation need to be carefully reviewed. The financial structure of the balance sheet of the Transport Activities, as a group, has been extensively modified between 1995 and 1997. The total of the balance sheet has been multiplied by approximately 5. UZ went through several governmentally driven assets revaluation, (1995, 1996 and 1997) and applies the new depreciation rate. An in-depth analysis should be done to ensure that the actual reevaluated values and yearly depreciation amount represent fairly and adequately the economical and financial realities of the group and its transport enterprises and ensure proper modernization of the railway network.

8.20 **Fragile Short Term.** The short-term financial structure of the Transport Activities, as a group, is fragile. The amount of receivables moved from about Hrv 1 billion at the end of 1996 to Hrv 1.9 billion at the end of 1997, or about 180 days of the freight turnover. These amounts are largely constituted by overdue payments or arrears on state enterprises in the mining and industry sectors. As a result, delay in salary payments has reached 6 months and UZ has a growing arrears to its current budget and Pension Fund, thus contributing to the growing fiscal problem.

8.21 **Barter Impact.** Bartering as a payment for freight services rather than cash payment, highly reduces the actual cash flow available. In addition, parts of revenues are coming from inter-company non-cash transactions. According to UZ only 40% of total sales in freight tonnage are paid in cash. Despite extensive internal operational and technical resource available, UZ may face liquidity crises in the near future.

## D. Future for the Railways

8.22 **Traffic.** Traffic levels are unlikely to return to prior levels. Future railway demand is going to differ radically from past demand, both in its level and its pattern. It is anticipated that most of the still existing short haul traffic will shift to the road. A significant part of the excessive haulage of basic commodities will cease. Routing and services are expected to vary from those of today. The valuable international traffic will remain if, as a matter of economic policy, the government take all the necessary steps and actions.

8.23 **Towards Stabilization.** The Ukrainian government, recognizing institutional, legal and financial problems of UZ, prepared a resolution "On Measures for the State Support to Railway Transport" (June 1998). Different ministries (Ministries of Finance, Industrial Policy, Economy, Science and Technology, Justice in addition to Ministry of Transport) and State committees were requested to work out short-term measures to support the economic stabilization and development of UZ. It would include (i) the identification of budget needs, (ii) steps to radically reduce barter transactions between UZ and other related state companies; (iii) increased negotiating power in passenger services; and (iv) right to spin off assets and part of its social activities.

8.24 **Corridor Concept.** A national transport corridor concept building on intermodal synergies should be developed in line with the limited funds available for infrastructure development. Railway corridor concept was introduced with a government Decree from October 30, 1996. High level State Commission was established in order to prioritize respective development and grant smooth interaction with road transportation, customs and other

contributors. Ukraine's aspirations in the Crete corridor concept have not come to reality so far. Both European direction and the "Silk Road" constitute high importance for the Ukrainian government but progress is modest.

**Box. 8.1. MOT Draft program for Railway Restructuring.** On August 18, Ukraine's Transport Ministry Board decided to submit to the Government for consideration, a draft program of the restructuring of railroad transport for 1998-2003. The total value of the fulfillment of the program is nearly Hrv 19.0 billion. Of this sum, the largest part (Hrv 15.1 billion) is to be spent on the replacement of rolling stock and track-lining machines. The main program objective, according to Ukrainian Government, is to create a flexible, economical and consumer-oriented control system, increase railroad's profits owing to the attraction of additional freight traffic, increase volumes and improve the quality of services and economic relations between railroad transport and consumers, and integrate the Ukrainian railroads into the European transport system. According to the program, specialized railroad cars and platforms with extension axes for direct international communication are to be worked out and built at Ukrainian companies. The program represents another clear statement from the government to support UZ and its overall contribution to the national economy. However, funding will be difficult to secure without a prior radical restructuring of UZ, and once deeply restructured commercial priorities may be different from this government driven plan.

**8.25 Investment Plans.** Investment plans of UZ are mostly engineer driven and remain often unjustifiable economically (Box). Proposal to invest heavily in infrastructure and modern rolling stock (such as high speed train) are incompatible with the economic situation in Ukraine. However, a study should be considered for further specific investments into gauge-switching at border crossings. Other Government priority infrastructure investments include (i) the complete reconstruction of Beskyd tunnel; (ii) upgrading of the Telecommunication Network and modernization of the Automated Control System (started); and (iii) electrification of railroads.

**8.26 Funding Available.** Most of the financing required for the restructuring of the railways will come from the railway operational cash flow. General economic environment in Ukraine remains difficult. No significant government funding, debt and/or equity financing from domestic and international markets can be made available in the near future. However the Hrv 1.2 billion of operational cash flow generated annually, if well allocated, represents a considerable source of funding.

### **E. Railway Sector Economic Sustainability Strategy**

**8.27** In this environment and considering the future for the railways, there is clearly a need for a structural reform to create a competitive environment for the railways and avoid the consequences of a government manipulated natural monopoly.

**8.28** The railway transition and stabilization strategy should be based on the recognition that:

- (i) the strategy needs to be an overall strategy and not a project by project approach, so operating constraints can be removed on the entire railway network;
- (ii) the Hrv 1.2 Billion of operational cash flow give a sound basis to transform the situation
- (iii) the implementation of the strategy requires different skills and dedicated resources, that would be better outsourced;

- (iv) the satisfactory retrenchment, redeployment and retraining of redundant staff is a key element of the restructuring of the railway; and
- (v) the success in turning around the railway will depend on the successful implementation of a transport strategy implementing a healthy inter-route and inter-mode competition, market based pricing, full cost recovery for all modes, investments based on economic justification and enforcement of safety-related regulation.

8.29 The main features of the transition and stabilization strategy, should, therefore, include:

**First Phase: Short Term Measures (1 Year to 18 months): Cost Rationalization and Loss Reducing Measures.**

- a) **Rationalize Railway Assets.** It would require to : (i) preserve essential parts of the existing assets by prioritized maintenance; (ii) impose financial and economic analysis of new investments; (iii) remove existing bottlenecks at border crossing; and (iv) divest from idle and useless inventory.
- b) **Outsource Ancillary Activities.** It would require to (i) introduce competition in procurement for works and goods; (ii) sell and outsource small-scale services that can be bought competitively on the market; (iii) initiate separation and start sale/privatization of internal contractual services (maintenance, catering e. g.).
- c) **Adjust Tariffs.** It would require to : (i) allow suburban fares to rise to gradually cover working expenses, operating expenditures and contribute to capital expenditures; (ii) allow long distance passenger tariffs to rise gradually to full cost recovery; (iii) allow freight rates to rise to cover realistic and rationalized costs; and (iv) request state compensation for public service obligations on long distance and suburban passenger services or alternatively cancel services. *A special emphasis on addressing barter trading practices is critical to ensure the liquidity of the operational cash flow.*
- d) **Attract New Traffic.** It would require to : (i) enter into bilateral agreements to reduce organizational and commercial obstacles to block trains and shuttle services along the most important railway corridors; (ii) reorganize operations (enhanced computerization, EDI use); and (iii) increase multi-modal competitiveness.
- e) **Provide Better Tools to Decision-Makers and Managers.** It would require to (i) introduce a simple and expandable Management Information System (economic and financial data) shared between management and the various departments (avoid sophisticated data management software at this stage); (ii) carry out audit of UZ and regional railways operation and fixed assets; (iii) initiate studies on operating cost for the different type of services; (iv) separate on an accounting basis freight, long distance passenger and commuter operations
- f) **Prepare Next Phase.** It would require to (i) design an overall 5-year survival plan backed with consistent operational study and realistic financial/economic study and projections to be agreed with Government; (ii) review railway law and initiate the changes; (iii) launch and carry out all expertise and studies to prepare the second phase; (iv) define a labor

rightsizing program which will include the main components and financing requirements to mitigate the adverse impact on labor of unavoidable redundancies.

**Second Phase: Medium Term Measures (2 to 4 years): Institutional Restructuring and Rightsizing Measures.**

- a) **Reorganize Core Activities and Divest from Remaining Ancillary Activities.** It would require to (i) define a railway transport strategy integrating the corridor policy and subsequent institutional arrangement; (ii) organize and commercialize rail freight transport operations (including a decent increasing remuneration of capital invested); (iii) divest all social assets and staff related to these activities (schools, hospitals, stores, etc...) to local and regional governments and/or other government entities; and (iv) divest “ancillary activities”, e.g. industrial enterprises manufacturing rolling stocks, carrying out major track repairs through outsourcing and/or privatization.
- b) **Interrupt Cross Subsidies.** It would require to: (i) separate freight, long distance passenger and commuter services in three separate legal entities; (ii) transfer suburban passenger services to local governments and municipalities; and (iii) reorganize UZ legally into a holding of regional as well as interregional joint stock companies.
- c) **Implement the Labor Rightsizing Program Defined in Phase I.**
- d) **Prepare a Corporate/Privatization Strategy for Freight Operations.** This strategy to be prepared should define the appropriate legal, social and financial framework, role and status of the entities, role of the state, Ministry of Transport, private sector, users, transport and transit operators, customs. It should also look into infrastructure financing conditions, freedom to set tariffs, financial mechanisms for financing railway development, sector regulation and monitoring, etc....

**Third Phase: Long Term Measures (5 to 7 years): Separation of Infrastructure and Commercialization of Railway Services.**

- a) **Corporatize Freight Operations.**
- b) **Establish Total Tariff Freedom.** Local and/or central government would tender subsidies in regional and short-haulage passenger services.
- c) **Implement a Pilot Privatization.** Privatize freight transport operations and other service companies/entities of UZ in a pilot region and/or interregional (transit related) services. This pilot would enable to learn relevant lessons prior to a full-scale privatization with separation of infrastructure at a later stage.

## F. Financial Sustainability and Projections

8.30 **Outlook.** Like many other FSU railway companies, the Ukrainian Railways are facing a situation where radical changes are inevitable. The most critical issue is to transform the railways into a truly independent, commercially viable corporation, concentrated on its core business (transportation services) and subject to market forces. There is almost no hope that the company's financial sustainability and business in general will be restored significantly during the coming decade without a major restructuring strategy. Therefore, a reasonable and courageous railway reform program is urgently needed. The key elements of the proposed reform program have been presented in the previous section. Failure to implement significant financial adjustments and restructuring would put the railways into an increasingly difficult financial position.

8.31 On the basis of the proposed reforms, indicative financial projections<sup>18</sup> on the basis of Ukrainian Railways' current financial information (see Tables 8.3 and 8.4 below and Tables 8.2.1 to 8.2.9, Volume III: Annexes and Statistical Appendix) were developed in line with the financial adjustments and restructuring actions proposed. Financial forecasts were built on demand projections under the *Complete Reform scenario* (see Chapter 4).

**Table 8.3. Ukrainian Railways - Summary Pro-Forma Income Statement Projections  
(1998 US\$ ml unless otherwise indicated)**

	1997*	1998	1999	2000	2001	2002	2003	2004	2005
<b>Traffic</b>									
Passenger (mln. pass.)	506	469	384	315	260	227	198	173	152
Passenger.km (bln pass.km)	55	51	46	41	36	34	31	29	27
Freight (mln. ton)	334	331	326	321	317	324	330	337	344
Freight in ton.km (bln ton.km)	160	158	156	156	155	158	161	165	168
<b>Tariffs</b>									
Avg. Pass. Tariff (USc/pass.km)	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3
Avg. Freight Tariff (USc/ton.km)	1.0	1.0	1.1	1.2	1.3	1.3	1.4	1.5	1.6
Ukrainian Railways Staff in 000'	300	300	255	217	184	175	166	158	150
Operating Revenues	2,064	2,021	2,149	2,290	2,445	2,592	2,739	2,897	3,066
Operating Expenses	3,066	2,522	2,485	2,486	2,495	2,509	2,552	2,598	2,646
Including Depreciation for :	1,475	848	859	870	881	933	944	956	967
Net Profit After Tax	(400)	NA	(444)	(288)	(129)	35	109	188	274
<b>Ratios</b>									
Working Expenses / Revenues	77%	79%	72%	66%	62%	58%	56%	54%	52%
(W. Expenses + Depr.) / Revenues	149%	125%	116%	109%	102%	97%	93%	90%	86%

\* Actual, 1997

<sup>18</sup> Financial projections were prepared in 1998 US\$. Company accounts have been restated to approximate International Accounting Standards (IAS) and have been converted from Ukrainian Hrv into US\$ for easier comparability.

8.32 Four specific areas of the restructuring strategy have been particularly addressed in the financial projections. These include: (i) asset revaluation and right sizing; (ii) tariff adjustments; (iii) staff contraction and salary increases; and (iv) barter reduction and arrears repayment program exploring possible offsetting mechanisms.

- a) **Asset Revaluation and Right sizing.** Ukrainian Railways' fixed assets are estimated undervalued and oversized. A detailed railway-specific asset revaluation, made by qualified auditors, is needed. This revaluation would take into account all assets currently used on the core business line and in working condition. All other assets would either be divested or written off the accounts and/or auctioned. The average remaining life of the re-valued assets, along with the corresponding average depreciation rate, would then be assessed and revised as necessary. Preliminary estimates would re-value net fixed assets for the core business line to more than US\$15 billion.
- b) **Tariff Adjustment.** Recent tariff increase efforts would need to continue and be reviewed in order to cover the cost of the services provided and generate enough funds to finance all necessary rehabilitation and renewal on core business assets. Preliminary estimates indicate that current average passenger revenues per km would need to more than double to cover their cost. Freight tariffs would also need to increase from current 1.0 US cent/ton km to more than 1.5 US cent/ton. km by 2005. It has not been considered that such tariff increases would significantly affect the structure of railway freight demand and somewhat decrease the competitiveness of the railways against road transport, on the heavy bulk traffic traditionally carried by the railways.
- c) **Staff Reduction and Salary Increase.** The Ukrainian Railways appear over-staffed given current traffic levels (see section A). A progressive reduction in the number of employees from 300,000 to about 150,000 people is considered. Staff reduction would be compensated by severance payments of up to 2 years of salary. These severance payments, representing an estimated US\$275 million over the first 3 years, are financially feasible and have been included in the financial projections. Such payments would also give employees incentives to consider leaving the entity and would increase the number of voluntary departures. At the same time, in order to retain qualified human resources, and contingent on labor productivity improvements, salaries would need to increase, by about 25 percent per year. The railway social system has been considered being divested and provisions have been calculated from year 2002 to provide the employees with the purchase power to procure the equivalent services on the market.
- d) **Barter and Arrears Repayment Program.** Most barter transactions and overdue payables and/or receivables of the railways come from the same source: the State and State owned entities. Offsetting mechanisms whereby tax payables could be offset by State-owned entity receivables or through the creation of a railway barter and arrears clearinghouse would substantially reduce the enormous liquidity difficulties of the Ukrainian Railways. Following the implementation of this program, the financial projections assume that by 2002: (i) barter transactions will be totally abolished and the backlog of barter assets would have been converted into liquid assets; (ii) accounts payable would be brought down to no more than two months of expenditures while accounts receivable would not represent more than 90 days of billing turnover.

**Table 8.4. Ukrainian Railways - Summary Balance Sheet Projections (1998 US\$ mln)**

	1997*	1998	1999	2000	2001	2002	2003	2004	2005
<b>Total Assets</b>	<b>12,437</b>	<b>16,845</b>	<b>16,311</b>	<b>15,946</b>	<b>15,752</b>	<b>15,745</b>	<b>15,855</b>	<b>16,045</b>	<b>16,321</b>
Fixed Assets	10,979	15,261	14,902	14,532	14,151	13,718	13,274	12,818	12,351
Current Assets & Other Assets.	1,428	1,584	1,409	1,414	1,602	2,027	2,581	3,226	3,969
<b>Total Equity and Liabilities</b>	<b>12,437</b>	<b>16,845</b>	<b>16,311</b>	<b>15,946</b>	<b>15,752</b>	<b>15,745</b>	<b>15,855</b>	<b>16,045</b>	<b>16,321</b>
Equity and Reserves	14.43	14.43	15,801	15,513	15,384	15,418	15,527	15,715	15,990
Long-Term Debt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Current Liabilities	692	600	510	434	368	326	328	329	331
<b>Ratios</b>									
Current Assets/Current Liabilities	2.07	2.64	2.76	3.26	4.35	6.21	7.88	9.80	11.99
Revenue Turnover	n.a	13.2%	14.4%	15.8%	17.3%	18.9%	20.6%	22.6%	24.8%
Receivables Turnover (in days)	170	180	139	111	88	83	84	85	85

## 9. MARITIME AND RIVER TRANSPORT

9.1 **Overview.** In the FSU, the entire maritime transport was managed by the State. The Merchant Marine Ministry (MINMORFLOT) was in charge of shipping lines, to which both the river and seaports were subordinated<sup>19</sup>. The Ministry was in charge of: (i) development and implementation of policy and legislation in connection with national and international maritime sector; (ii) regulation and control of navigational safety and environmental protection; (iii) management and funding of operations and infrastructure for navigational channels and port accesses; (iv) regulation of prices and tariffs, regulation of foreign currency earnings; and (v) provision of housing and social services to its subordinated organizations. The ports had no autonomy and were mainly responsible for cargo handling operations.

9.2 *The rigid organization of command and control, deprived managers from taking initiative in independent decision making and accountability, prevented introduction of modern technologies, encouraged mediocre productivity and, high labor costs.*

### A. Organizational Structure

9.3 **Department of Maritime and River Transport.** The Department of Maritime and River Transport, created by a decree in the MOT, is responsible for defining the strategy for development of seaports, maritime transportation, and shipyards. In connection with maritime transport and ports, its main function consist of (i) exercising control over the use of state property; (ii) overseeing safety of navigation; (iii) establishing and modifying tariffs; (iv) ensuring labor protection; (v) registering ships; (vi) securing release of crew from arrested Ukrainian ships; (vii) ensuring marine ecological protection; and (viii) collecting sector data. The Department does not interfere with day to day operations of ports and shipping lines.

9.4 **Problem Areas.** The existing institutional structures prevent liberalization of the waterborne sector, primarily because the Government still retains the ownership and control of sea ports and maritime shipping, to the extent that even appointments of senior management of the enterprises is MOT's prerogative.

### Recommendations

- a) Remove operational functions from MOT and its Department.
- b) Deregulate tariffs, and allow each enterprise to determine them separately.

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<sup>19</sup> Shipping lines had jurisdiction over ports and more specifically Ukrechflot over Dnieper river ports, the Danube Shipping Company over Reni and Ismail ports; Blasco over the Black seaports including Nikolayev and Kherson, and Azov Shipping Company over the Azov seaports.

- c) Revise the existing legal text on privatization to enable private sector participation in enterprises.

## B. River Ports and River Shipping

9.5 **Main River and River Ports.** Navigable rivers in Ukraine are: Dnieper, Pripat, Desna, Sula, and Southern Bug Danube. Total length of navigable rivers in Ukraine is 4,900 km, of which 3,000 km have guaranteed depths of water for navigation. The most important river for transportation in Ukraine is Dnieper with a total length of 2,200 km, of which 1,851 km is navigable, and 1038 is within the borders of Ukraine. There are seven major ports<sup>20</sup> on the Dnieper river.

9.6 **River Ports Evolution.** River ports before the independence of Ukraine were under the jurisdiction of Ukrechflot, the river shipping company. In 1993, river ports were privatized. However, privatization has not been fully implemented. While all of the stocks of Zaporozh'ye port have been sold to the private sector, in Kiev 35% of shares are still owned by the Government. After privatization, personnel in river ports were drastically reduced e.g. by two thirds in Zaporozh'ye port, and from 2,236 persons down to 480 in Kiev ports. Social sector infrastructure and activities have also been disposed of by the river ports. In recent years cargo handling on the river declined significantly.

9.7 **River Maintenance.** Ukrechput is the public sector organization responsible for the safety of river navigation. It carries out dredging of the navigable rivers with its own fleet, marks navigation channels, and maintains river locks. Governments' budget allocations finance Ukrechput's operations.

9.8 **Traffic Evolution.** Traffic on the Dnieper River has dropped to 2 million tons in 1997 and traffic composition has changed significantly. Kiev port handled up to 30 million tons in 1980. Cargo on the Dnieper River used to consist mainly in construction materials (80%). Due to drastic reduction of construction in Ukraine, demand for construction materials also dropped. By type of cargo handled, 57% was metal and 25% consisted of various ores and coal. Zaporozh'ye port handled 52% of the total and Dnepropetrovsk, and Kherson and Nikolayev river ports handled 44% of the total. Kiev port handled only 2% of the total. Due to this situation, Kiev port is trying to diversify its activities by building open and covered custom bonded storage.

9.9 **River Shipping Evolution.** Under the FSU, Ukrechflot managed river transportation on the Dnieper River and the Danube shipping company (UDP) on the Danube. These organizations were administratively and institutionally independent and sought support from Moscow for funding major capital expenditures and technical assistance. After independence, Ukrechflot was privatized. Both shipping companies broke their ties with river ports and progressively entered the more lucrative maritime transport. In 1997, of the 5.0 million tons carried by Ukrechflot, only 0.3 million tons accounted for transportation on Dnieper river, and of the 1997 income of about Hrv 90.0 million, about Hrv 85.0 million were earned from transport outside Ukraine.

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<sup>20</sup> from the upstream end they are: Kiev, Cherkask, Kremenchuk, Dneprodierjinsk, Dnepropetrovsk, Zaporozh'ye, and Kherson

## **Future Developments of River Ports and River Shipping**

9.10 **River Ports.** Cargo handling activities on the Dnieper river in the future will take place mainly in Kiev and Zaporozh'ye ports. In Kiev because of significant cargo flows to the city, and the likelihood of development of transit cargo to capitalize on low cost river transport; and in Zaporozh'ye because of its proximity to the industrial areas of Ukraine. Other river ports are likely to engage in cargo handling to a much lesser degree. The approach taken by the Kiev port in equipping themselves with the river-sea ships, is appropriate, taking into account that Ukrechflot does not find it convenient to service the upper reaches of the Dnieper river. All river ports will be able to increase their cargo handling activities after the recovery of the construction industry, at which time the river ports would provide dredged construction materials.

9.11 **River Shipping.** The fleet will evolve towards river-sea ships. These vessels enable year around use. Ukrechflot started equipping itself with these. Ports like Kiev are also planning to make use of such ships. There appears to be an interesting future for such vessels operating on the Dnieper river, and providing services close to being door-to-door.

## **Problem Areas in River Ports and River Shipping**

9.12 **Handling Equipment and Procedures.** River ports have sufficient cargo handling capacity, but have not necessarily the right type of equipment, since existing equipment is old and inefficient. On average, equipment utilization is about 50%. Due to the use of direct loading/unloading, river vessels spend too much time in the ports -55% of total time. For this type of operation, the arrival of ships is to be coordinated with the arrival of the trains, which has proven very difficult in practice. According to the experience of Ukrechflot, moving cargo on pusher-barge convoys on the Dnieper river is not efficient due to a large number of locks, requiring breaking up of convoys. Container traffic on the river is also constrained by the absence of modern container handling equipment.

9.13 **Inappropriate Financing Mechanism.** MOT has not yet established the collection of port dues on river ports, causing a significant loss of income to river ports. On the other hand payments, both official and unofficial, collected from ships for canal and lock usage, as well as for lifting of bridges, discourages the use of river transportation due to high costs incurred. An unreasonable financial burden is put on ports via property taxes charged at the same rate as for prime city property.

9.14 **Rocky Bed.** The rocky bed between Dneprodzerzhinsk and Dnepropetrovsk, causes toward the end of the shipping season, a reduction in water depths below 2.9 m, preventing ships to take a full load on the basis of depth of water of 3.65, which is guaranteed in other locations of the Dnieper river. Therefore, unless this reach is dredged, a significant development of river transport from the upper and middle reaches of the Dnieper river is unlikely.

9.15 **Unfair Rail Competition.** The diversion of cargo from river to rail transportation is due to dumping tariffs for ponderous materials. Over the years, construction materials have replaced typical river long haul type of cargo consisting of coal, grain, ore, and petroleum. The energy consumption for moving a ton of cargo on inland waterways is about 6 to 10 times less expensive than on railways. Potential productivity and costs of waterways in transport of bulk cargo cannot

be matched by other modes of transports, but under the current circumstances, competition with rail is not possible.

**9.16 Insufficient River Maintenance.** Governments' annual budget allocations for the work carried out by Ukrechput is not sufficient. Maintenance of the existing locks is mediocre. In case of a lock gate failure due to insufficient maintenance, the reaches below the locks would be flooded with disastrous results. Also due to lack of funds, insufficient dredging of channels may result in serious ship accidents, blocking river navigation.

**9.17 Pseudo Monopoly on the Dnieper.** Currently Ukrechflot benefits from a pseudo monopoly that prevents active competition on the Dnieper River. In 1992, foreign flag ships were allowed to sail on the Ukrainian inland waterways. This was beneficial for the trade in the Black sea with access all the way up to Kiev. However, in 1997 the Government decided to change the law, allowing only the carriers from countries with which Ukraine had a bilateral agreement on the basis of a 50-50 split. Since local companies are too small to compete, Ukrechflot assumes control over the Dnieper river transports. However Ukrechflot is not operating its vessels on the upper and middle Dnieper, which results in the inability for a port like Kiev to serve waterway transport. To be able to handle its cargo, Kiev port is planning to procure four river-sea ships, thus ensuring transportation of its cargo to the Mediterranean Sea. It would be cheaper to open the river system to international river shipping.

### **Suggested Improvements in River Transport**

**9.18 Improve River Port Operations.** It would require to : (i) modernize cargo handling equipment, through leasing rather than purchasing; (ii) optimize the use of existing storage facilities, with the help of regulatory measures or escalation of tariffs, and making use of barges for storage; (iii) discontinue direct cargo handling operations; (iv) carry out dredging on a contractual basis with annual savings of about US\$4.0 million; (v) privatize Ukrechput dredging fleet; (vi) eliminate unofficial charges, and reduce charges associated with the use of locks, canals, and lifting of bridges.

**9.19 Transform Financing Mechanism.** It would require to : (i) establish river port dues; (ii) reduce the tax rates payable by the ports, taking into consideration that during winter, with less port activity, the real estate at the ports could not be of value comparable to that of the city; (iii) fund fully Ukrechput's operations, for a period of about five years, reducing gradually the government contribution and increasing user charges.

**9.20 Amend the Legal Framework.** It would require to : (i) allow foreign flag ships to sail on the Ukrainian inland waterways; (ii) reopen to competition Dnieper River transport; (iii) end Kiev railways' monopoly in container terminal, thus allowing all interested parties to establish their custom bonded container terminals in Kiev.

**9.21 Remove Infrastructure Bottleneck.** It would require to (i) dredge the rocky river bed between Dneprodzerzhinsk and Dnepropetrovsk to guarantee 3.65 m. water depth from Kiev to Kahovka. Estimated cost of dredging is US\$10.0 million.

### C. Seaports

9.22 **Before Independence.** Ports operated according to plans worked out by the Central Government Authorities. The FSU system was organized under the premise of specialization with each carrier and ports developed to manage a specific part of all-union trade, (e.g., Yuzhny, for coal and chemicals). In 1990, about 40% of the FSU cargo (about 400 million tons) was passing through ports in the Black Sea and the Azov Sea, mainly belonging to Ukraine.

9.23 **After Independence.** During this period, ports separated legally from shipping lines and became autonomous, creating incentives for ports to improve their operations. However, with the significant reduction in cargo, improvement has been limited.

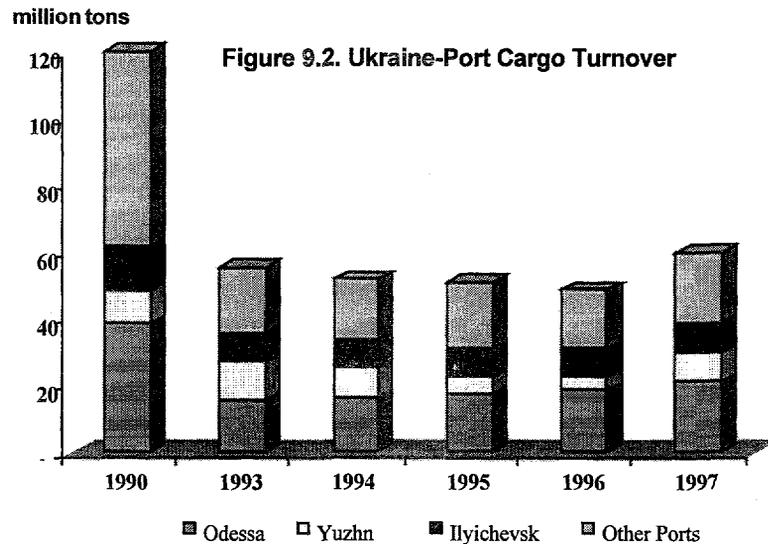
9.24 **Seaport Overview.** Ukraine has a total of 31 seaports with an annual cargo handling capacity of about 135 million tons. 75% of the capacity is concentrated on seven ports : Odessa, Ilyichevsk, Yuzhny, Reni, Izmael, Nikolaev, Kherson, and Mariupol. Ports' handling capacity could easily be increased by 30% with improved operations and even further with modernization of cargo handling equipment. The 18 main ports (Annex 9.1) of Ukraine are divided into three regions: Danube, Black Sea, and Azov Sea<sup>21</sup>. Sea trade traffic is increasingly concentrated in the three main Black sea ports (Odessa, Ilyichevsk and Yuzhny) which now represent more than 60% of tons transported, up from about 50% in 1990. The ports with best nautical accesses are Odessa, Ilyichevsk and Yuzhny, which have water depths varying from 14.0 m. to 10.5 m.

9.25 **Traffic level.** In 1997, Odessa, Ilyichevsk and Yuzhny handled about 38.7 million tons out of the total of 61.2 million tons (Figure 9.1 & 9.2). In the port of Odessa, after a drastic drop between 1990 and 1993, traffic has clearly improved, but the overall traffic stays at about 55% of the level of 1990. The situation is becoming alarming in the port of Yuzhny, which has lost more than 50% of its 1990 traffic, mainly since 1994. A comparison of the present traffic levels, with the potential capacities, shows that the utilization of existing capacity of ports is only 50%.

**Figure 9.1. UKRAINIAN PORTS - HISTORICAL TRAFFIC PER PORT**  
1990-1997  
(in million tons)

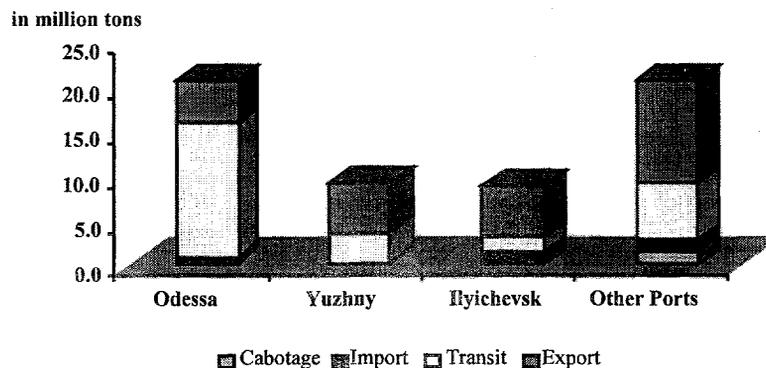
PORT OF:	1990	1993	1994	1995	1996	1997
<b>Total main Ports</b>						
Theoretical capacity (estimates)		120	120	120	135	135
Actual traffic	120	55.3	51.5	50.6	48.4	59.5
<b>Including</b>						
Odessa	37.9	15.6	16.1	17.7	18.3	20.8
Yuzhny	10.2	11.0	8.9	4.7	4.2	9.1
Ilyichevsk	12.9	8.7	8.1	7.9	8.2	8.9
<b>Total main Black Sea Ports</b>	<b>61.0</b>	<b>35.3</b>	<b>33.1</b>	<b>30.4</b>	<b>30.7</b>	<b>38.7</b>
<b>Total other Ports</b>	<b>59.0</b>	<b>20.0</b>	<b>18.4</b>	<b>20.2</b>	<b>17.7</b>	<b>20.8</b>

<sup>21</sup> The three main ports in the Danube Region are: Reni, Izmail, and Ust-Dunaisk. The twelve main ports in the Black Sea Region are: Belgorod-Dnestrovsky, Ilyichevsk, Odessa, Yuzhny, Oktyabsk, Nicolaev, Kherson, Skadovsk, Yevpatoria, Yalta, Sevastopol, and Theodosia. The three main ports in the Azov Sea Region are: Kerch, Berdiansk, and Mariupol.



**9.26 Type of Traffic.** Most of the cargo volumes have decreased significantly with the exception of steel products. Ukrainian coal with high sulfur content and long hauled Russian coal are no longer competitive on international markets. Demand for iron ore fell drastically. Volume of construction materials reduced by at least by six times due to limited construction activities and to ecological considerations disallowing extraction of sand from the sea. Import of grain has been curtailed. The sea trade traffic is mainly constituted by export goods (in 1997, 25 million tons or about 45% of total traffic) and goods in transit (in 1997, about 27 million tons or about 50% of total traffic). Approximately 70% of this traffic is still linked to CIS countries.

**Figure 9.3 Total Sea Ports Traffic 1997**



### Seaports-Future Developments

**9.27 Port Overcapacity.** There are too many ports in Ukraine. Most of them are utilized at 50% of their capacities. Traffic is expected to increase slowly as the economy recovers and most likely will not return to prior traffic levels in the next coming ten years. With liberalization of tariffs, and increased competition, only the most efficient and best performing ports will continue to operate. Under this scenario it appears that ports most likely to continue operating will be:

Odessa, Ilyichevsk, Yuzhni, Mariupol and Izmail. The rest of the ports will either close or will limit in their activities of serving the areas within their immediate reach.

**9.28 Transit Potential.** The port system could contribute to an accelerated economic growth. The strategic location of most of the Ukrainian ports offers many opportunities for transit, transshipment services to international shipping. The government should seize this opportunity and address urgently the current structural and institutional deficiencies, improve efficiency and accountability in the sector and implement a supporting port reform. The encouraging result from private initiatives in the port of Odessa should be followed up.

### **Seaports-Problem Areas**

**9.29 Overview.** Some important issues prevent an industry that is subject to international and regional competitive pressure to become efficient and financially sustainable on a long term prospective. The port system as a whole is over-dimensioned (number of ports, assets and staff). The financial burden of social and ancillary activities imposed on the port management dilutes a lot of the medium and long term financial resources. Public sector monopolies having privileged access to various resources in the ports are still existing. The tariffs regulation and lack of financial autonomy have generated a lack of financial discipline. The regulatory regime is not suited to private participation in the provision of port services. There is also, probably, a lack of consensus with the key decision-makers in the sector on the best approach to resolving all these issues.

**9.30 Regulated Tariffs.** The port tariffs are fixed by the Maritime and River Transport Department. The official non intervention of the Ministry in the ports economic activity conflicts with the lack of freedom of ports to set their own tariffs (a single tariff system is set for all ports). In this regard, relationship with the Department of the Maritime and River Transport is unclear.

**9.31 Management Issues.** Client interest is not represented in the port board. Half of the board members are nominated by the port manager and the other half by the port workers. The port manager is appointed by the Ministry of Transport, and to that effect a contract is signed between them. The heavy involvement of port workers in the management of the port may not promote ports operations to take place in a competitive environment. On the contrary, shippers and ship owners, the main clients of the ports, as well as the towns and the regions where the port is located, are not involved in the decision making process affecting the ports.

**9.32 Inappropriate Legal Framework.** Several issues stem from the existing legal framework. Ports' administration under the "Industrial Law" creates problems. For example, ports are unable to enter into "joint ventures" with, or leasing land to stevedoring companies. Ports are controlled through centralized Government activities, and cannot function as efficiently if they were decentralized, corporatized, and privatized. The dock labor unions are governed by the FSU law. The Maritime and River Transportation Department should resolve disputes arising between port workers and port management, but in the absence of relevant laws, it is difficult to find acceptable solutions for all parties concerned. Finally, engagement of temporary workers on a daily basis according to the demands of cargo handling, is not feasible according to existing laws and regulations.

9.33 **Social Issues.** Despite their large social burden, ports fail to provide an appropriate social protection to their employees. Ports are grossly over staffed. As a result, existing pension payments are not sufficient to cover the needs of port workers in old age, and staff medical coverage against accidents in the ports is not comprehensive enough. Despite this, social and cultural services, not related to the actual port operations, cost ports around 20% of their total expenditures.

9.34 **Ineffective Procedures and Equipment.** An estimated 30% of efficiency gain could be achieved by improving current procedures. Ports engagement in direct loading, results in long ship service time. Ports storage areas are not used effectively. Customs clearance procedures, especially for transit cargo, need to be simplified. Complex procedures in place cause significant delays in onward movement of transit cargo, resulting in such cargo being moved to other ports e.g. about 20,000 TEUs in 1997 in transit through Ukraine were moved to Constanta Port instead of Odessa. Productivity in cargo handling operations, in many ports is below acceptable limits. Equipment in many ports is old, outdated, and inefficient.

9.35 **Investment Priorities.** The need for construction of a new oil facility in Yuzhni is not clear, since the Odessa Oil Terminal appears to have sufficient capacity for oil imports to Ukraine in the immediate future.

### **Financial Performances and Issues**

9.36 **Good Performance of Odessa and Ilyichevsk.** Ukraine's main ports traditionally had a positive cash flow because tariffs were centrally set high enough to cover costs and because there was no competition among ports in the FSU. In 1997, the overall state maritime sector was overall financially profitable and responsible for a profit after taxes of about Hrv 140 million (about US\$ 70 million). The ports of Odessa and Ilyichevsk contributed about Hrv 125 million, which suggests poor financial performances for the rest of the sector. The table below presents the financial highlights for the ports of Odessa and Ilyichevsk in 1997 (Annex 9.2). Despite important deficiencies, over-staffing and all loss making non-operating activities such as social activities, the working ratio is good. The financial situation is characterized by high profit and cash flow level.

**Table 9.1: Black Sea Ports**  
**Financial Highlights**  
 for the year ended December 31st  
 (in million Hrv's) (in million US\$'s)

Source :	II		K	
	1997	1997	1997	1997
<b>Operating revenues*</b>	104.4	136.6	55.5	72.7
<b>Working Expenses</b>	42.8	62.4	22.8	33.2
<b>Operating Result before depreciation</b>	61.6	74.2	32.8	39.5
<b>Net operating result</b>	53.7	64.9	28.6	34.5
<b>Net Profit (Loss) before Tax</b>	94.2	68.2	50.1	36.3
<b>Net Profit (Loss) after Tax</b>	73.3	52.6	39.0	28.0
<b>Traffic (million tons)</b>	20.802	8.863	20.802	8.863
<b>Working Ratio</b>	41%	46%	41%	46%
<b>Operating Ratio</b>	49%	52%	49%	52%
<b>Pricing Ratio ( in MU/ton)*</b>	5.02	15.41	2.67	8.20
<b>Net Operating Cash Flow</b>	45.8	56.6	24.4	30.1
<b>Net Operating Cash Flow</b>	44%	41%	44%	41%
<b>Net Cash Flow</b>	81.2	61.9	43.2	32.9
<b>Net Cash Flow/Operating Revenues</b>	78%	45%	78%	45%

\*For Odessa, without cargo handling which represents about 13 Hrv/ton.

MU is Million Unit of currency.

9.37 **Low Depreciation.** The cost structure appears to be distorted: the level of depreciation is low and does not represent the economic and financial realities that these two ports have to face. The main explanation for this situation is the permanently changing legislation on assets revaluation and amortization. This is confirmed by the very low contribution of the yearly depreciation to the net cash flows (profit after tax represents more than 10 times the yearly depreciation in Odessa in 1997, 8 times in Ilyichevsk).

9.38 **Odessa's Performance.** The specifically good financial performance of the port of Odessa needs to be emphasized. Since 1996, port operations have been restructured. Cargo handling activities have been more or less totally outsourced to private stevedoring companies through eight "commercial agreements" operated jointly with the port itself (joint venture type agreements are still not allowed by the law), one for each specialized line of cargo. The comparison with the Ilyichevsk's financial performance gives a clear indication of the strategy that the government needs to define and implement.

### Port Sector Financially Sustainable Strategy

9.39 Strategy to be developed should be designed to set up regulatory, institutional and financial arrangements in the port sector which will enable greater private sector participation and the effective privatization of existing public sector enterprises operation in Ukrainian ports. Enhancement of the operational efficiency of the system, and increased competition in the sector

are the main benefits expected. In final, competition pressure would reduce the cost of transporting, transiting goods through and from Ukraine.

9.40 The basic approach to the port sector reform envisaged is articulated around the following main principles:

- a) Review the Port Legal Framework.** Adopt a port law bringing about changes related to: ownership, port organizations, port administration, relationship between ports management and the Government and private sector inclusive of clients. In particular, it should accommodate the following elements:
- (i) Ministry of Transport, through a specialized and professional agency will remain responsible for the regulation of Ukrainian ports and will seek to foster competition
  - (ii) The main individual ports will be owned and administered by autonomous Port Authorities which should be self sustaining entities that do not receive support from the general budget, except payments for specific public service obligations rendered by the port.
  - (iii) Port operations will be commercialized, and wherever feasible, be entrusted to the private sector through operating agreements, joint ventures agreements or concessions. Port Authorities will seek to ensure that each operating company faces competitive pressure from: (i) other ports; (ii) internal competition within the port; or (iii) through a process of re-bidding agreements and concessions after a specified period of time.
  - (iv) Port Authorities and private operators with freedom to set tariffs. Charges for port services should be set at a level designed to cover operating costs and recover capital expenditures and encourage investment in the sector; but should not result in a surplus that unnecessarily taxes transit, import and export operations.
  - (v) Ports will be free to enter into any port related activities, which do not require subsidies and which produce economic benefits to the country through profits generated, reduction in freight rates or improved quality of services.
- b) Reorganize Core Activities.** It would include : (i) reducing port staff, and engaging temporary port workers as dictated by cargo handling demand (estimated savings: US\$18 million) (ii) discontinuing direct cargo handling operations, optimizing the use of storage areas, through escalation of tariffs, modernizing and rehabilitating port equipment and infrastructure, and improving cargo handling<sup>22</sup>, (estimated annual savings : US\$25 million); (iii) outsourcing from ports social and cultural services, could result in annual savings of US\$10.0 million; (iv) simplifying customs and cargo inspection procedures, especially for transit cargo.
- c) Provide a Social Framework for Restructuring.** It would include : (i) adopting a new trade union law; (ii) setting up a pension fund for the port workers; (iii) defining a social program for staff rightsizing.

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<sup>22</sup> With a special focus on containers.

- d) **Enhance Project Selection.** It would include : (i) reassessing the need to build an oil terminal in Yuzhni port at this time, would result in saving of US\$150 million in investment costs; and (ii) introduction of project evaluation techniques.
- e) **Corporatize and Privatize Ports.** Decentralizing ports, i.e. creating municipal ports as was done in the case of Sevastopol port should be further explored. As an interim step to implementation of the port privatization policy, and while the privatization strategy is being prepared and clearly defined, the government would implement, a corporatization program in the port sector. This means that the government would define and implement an organizational structure in line with a competitive framework, create autonomous and competing port entities, and restructure sector enterprises into commercial entities, which can be privatized. This program should include regulatory reforms, divestiture from social and “ancillary” activities, restructuring of existing agreements between ports and port operating companies, reviewing and rationalizing tariff regulations, restructuring the financial management systems of port authorities, and resolving rightsizing issues (assets and labor) affecting efficiency in the ports. While short of full privatization, corporatization sets a new pattern for operations in the port and provides the framework for converting the ports to fully private operation.

#### D. Maritime Shipping

9.41 **Before Independence.** In the FSU, the merchant marine fleet operated in a highly protected environment (Annex 9.2) and was responsible for meeting the needs of each port rather than the country’s overall needs in international trade. The Government obliged all national forwarders to transport cargo on national shipping lines. Domestic exporters were forced to arrange international cargo transactions on CIF terms, and importers were to execute freight contracts on FOB terms to maximize the use of national carriers.

9.42 **After Independence.** Ukraine ended up in 1991 with 30 % of the ships of the FSU, or a total of 400 ships with a total deadweight of 5.5 million tons. Most of these ships were of the type, size, configuration, and age, not well suited for international competition in sea transport. The shipping lines, which existed in the FSU, were retained : the Black Sea Shipping Company (Blasco), the Danube Shipping Company (UDP), and the Azov Shipping Company (AZSCO). In 1997, by the order of the MOT, additional shipping companies were created: Ukrferry, Ukrtanker, Ukrainian Maritime Shipping (UMS), the Kerch Ferry, and ships operated by some of the seaports. AZSCO and Ukrferry are lease-hold enterprises. While the shipping lines are responsible for management of their operations, ownership of the ships remains with the Government and is not subject to privatization.

9.43 **Traffic.** In 1997, total tonnage handled by the national shipping lines amounted only to 7.6 million tons or 12% of the total sea borne traffic of Ukraine (37% less than in 1996), and mile-tons handled amounted to 8, 300 million (30% lower than in 1996). When principles of market economy were put into effect, Government leverage in regulating traffic disappeared. The bulk of the trade came under commercial entities, on which no pressure could be applied. In most cases now maritime transport contracts are concluded under FOB for exports and CIF for imports, which results in foreign shipping lines transporting most of the Ukrainian sea borne cargo. In addition, contraction of cargo handled in Ukrainian ports by 50 percent reduced potential traffic for

shipping lines. In 1997 UDP transported 5.2 million tons, AZSCO, 2.2 million tons (28% more than in 1996) and Blasco, 0.9 million tons (6.8 times less than in 1996).

**9.44 Fleet Restructuring.** The number of sea going ships operated by the national shipping lines was 268 in 1997 down from 309 in 1996. Blasco's fleet was reduced by 82 ships.<sup>23</sup> in 1997. By contrast the fleet of the UDP was not reduced<sup>24</sup>. AZSCO fleet was reduced by 40 ships<sup>25</sup> in 1997 (in 1996 it had 255 ships). In 1998 there will be further reduction in number of ships, due to old age, inefficiency, and those that had not worked in 1997.

**9.45 Erosion of assets.** The state owned shipping lines are going through a difficult financial situation, that of Blasco being the worst. The shipping lines are using outdated old ships and are unable to replace them with new ones. Merchant marine fleet is not competitive in international maritime transport, arrests of ships by the creditors still continue causing heavy financial losses to the shipping lines, and financial standing of most of the shipping lines is precarious. The Department of Maritime and River Transport is trying to improve the critical situation of the shipping lines, especially of Blasco, and has prepared a program of financial stabilization.

### Ukrainian Shipping Lines-Future Developments

**9.46** National shipping lines represent a strategic consideration for some Governments. Government's attempt to resort to protectionist policies of different kinds to assure the survival of their national fleets; assuring financial viability have proved to be the worst approach to resolve the problem. Policies enabling the shipping lines to be more competitive on international markets, are more likely successful.

### Shipping Lines-Problem Areas

**9.47 Inappropriate Fleet.** Ukrainian shipping lines have old ships, most of which are not specialized; this creates a problem in competing internationally with better equipped shipping lines having ships of recent construction. In the last five years, number of Ukrainian ships and dead weight tonnage decreased dramatically. No new ships were added to the shipping lines to substitute for the ships that were decommissioned.

**9.48 Legal Status.** Merchant marine shipping privatization is legally forbidden. This decision deprived Blasco from obtaining a US\$750 million financing from about twenty international banks to settle all outstanding debts and modernize the fleet. One of the main conditions of the financiers was privatization of Blasco, which could not take place, and the opportunity was lost.

**9.49 Management Response.** Many of the managers of the national shipping lines apparently lacked the know how for the commercial exploitation of the fleet, i.e., sound international experience, in depth knowledge of the Ukrainian law and accounting practices were not displayed, vis-a-vis contracting parties such as foreign charterers, offshore companies and other legal

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<sup>23</sup> MOT had transferred 5 ships to Ukrferry, 47 ships were sold on international markets, 19 ships were transferred to Ocean International Investment Inc. registered in Liberia, and 11 reflagged and transferred to an offshore company. Of the remaining 31 ships half is under arrest.

<sup>24</sup> 857 dump barges of various sizes, 25 tanker barges, 102 work fleet units, with 42 vessels taken out of operations.

<sup>25</sup> 215 ships of various types including 7 tankers.

structures. The frequent change of shipping line managers explain to a large extent the difficulties of the national shipping lines.

9.50 **National Protectionism.** Since the Government of Ukraine is unable to finance new ships for merchant marine shipping companies, there might be tendencies to resort to laws, or regulatory measures for reservation of a part of foreign sea trade on national carriers. It is understood that the Department of Marine and River Transportation has submitted to the Cabinet of Ministers, a proposal to induce such regulatory measures to protect national shipping lines.

### **Suggested Improvements**

9.51 **Change in Government Intervention.** The role of the Government would be limited to ensuring compliance with seaworthiness standards and environmental protection and their enforcement. The Government should stay clear from "protectionism", "interference", "priorities", "quotas" etc. to assist national shipping lines to obtain higher load factors. Instead, participation of the carriers should take place within a framework of competition open to all carriers. The right to carry Ukrainian maritime cargo or the extent to which national carriers should provide their services should be market-driven. Existing cargo sharing arrangements, based on voluntary agreements, should be left in place as they are sound. The policy of "free for all" and open competition in sea trade is healthy as it develops a climate of unrestricted competition and cooperation.

9.52 **Freedom of Shipping Companies.** Shipping lines should be let to develop and market their services in accordance with their corporate strategies. This would enable them to determine their service charges in accordance with appropriate accounting standards, at levels to ensure full coverage of their operating costs, appropriate asset depreciation, ship renewals, and funds sufficient to meet all of the overheads, but excluding social infrastructure and services for their employees.

9.53 **Privatization of Shipping Lines.** The law in Ukraine should be changed to allow privatization of Ukrainian shipping lines. This would allow ocean carriers to be put on a commercial footing and getting corporatized. It would be beneficial for shipping lines to be separated completely from the managerial links with the Government.

9.54 Following privatization of Blasco, it would be appropriate to obtain return of its ships from the foreign operators and offshore companies, and setting up its organizational structure in such a way that mistakes of the past are not repeated. It might be prudent to engage management services of specialists in shipping operations from outside Ukraine.

### **E. Financial Projections for Seaports**

9.55 **Approach.** The most critical issue is to transform the sea port sector into a free, commercial, competitive and modern "strategic gateway" for regional transit trade, sustaining export growth. The anticipated restructuring strategy will significantly improve economic competitiveness and financial sustainability of the sector during the coming decade. In line with the key elements of the proposed port reform presented in the previous section, indicative financial projections were elaborated. These were elaborated on the basis of Odessa and Illychevsk Ports

current financial information (see Tables 9.2 and 9.3 below and Tables 9.2.1 to 9.2.9, Volume III: Annexes and Statistical Appendix) and take into account the institutional and financial adjustments proposed. Financial forecasts<sup>26</sup> presented were built on demand projections under the *Complete Reform scenario* (see Chapter 4).

**Table 9.2. Ukrainian Sea Ports - Summary Pro-Forma Income Statement Projections**  
(1998 US\$ mln unless otherwise indicated)

	1997*	1998	1999	2000	2001	2002	2003	2004	2005
<b>Traffic</b>									
Freight (mln. ton) of which:	58	60	66	72	78	81	85	88	92
Export	27	28	29	31	32	33	34	35	36
Import	3	3	4	4	4	4	4	4	4
Transit	28	29	33	37	42	44	46	49	51
<b>Tariffs</b>									
Avg. Freight Revenue (US\$/ton)	5.3	5.4	5.0	4.7	4.4	4.4	4.5	4.6	4.6
Employees in the Sector **	30,000	30,000	22,500	16,875	12,656	12,023	11,422	10,851	10,309
Operating Revenues	325	326	330	335	341	360	380	402	424
Operating Expenses	171	208	207	211	218	235	251	269	287
Net Profit After Tax	108	82	101	100	98	93	96	99	102
<b>Ratios</b>									
Working Expenses / Revenues	45%	55%	52%	52%	52%	52%	52%	53%	53%
(W. Expenses + Depr.) / Revenues	53%	64%	63%	63%	64%	65%	66%	67%	68%

• Actual, 1997

• \*\* Permanent and Occasional in both the Port Authorities and the Cargo Handling companies

9.56 Three specific areas of the port restructuring and development strategy of the sea port industry have been particularly addressed in the financial projections. These include: (i) re-dimensioning of the sea ports system and asset right sizing, including modernization of the industry to respond to the increasing regional competition; (ii) tariff deregulation to allow sound competition; and (iii) industry employment re-organization and contraction to reach improved productivity levels.

- (i) **Re- dimensioning of the port system, Right sizing of fixed assets.** The proposed port system is articulated with the three main ports to cover the traffic of the Black Sea, the port of Mariupol for the Azov Sea and the port of Izmael for the Danube Region. Fixed assets have been estimated for these five ports, considering divestiture of all social assets and non-core business assets and equipment. Modernization of fixed installations and equipment has been provided for, on a self-financing basis, considering the level of cash flow generated through a sustainable depreciation policy. Fixed assets will reach an estimate US\$ 1 billion by year 2003. A detailed port-specific asset revaluation, made by qualified auditors, might be needed. This revaluation would take into

<sup>26</sup> Financial projections were prepared in 1998 US\$.

account all assets currently used on the core business line and in working condition. All other assets would either be divested or written off the accounts and/or auctioned. The average remaining life of the re-valued assets, along with the corresponding average depreciation rate, would then be assessed and revised as necessary.

- (ii) **Tariff deregulation.** Recent "regulated freedom of tariffs" efforts would need to continue and be reviewed in order to totally de-regulate port dues and port related services to allow adequate cost recovery and provision of improved quality of services but avoid taxing abusively transit, import and export operations. Preliminary estimates indicate that current average revenues per ton would decrease by an estimated 20-25% by year 2001. It has been considered that such a tariff policy would significantly impulse a growing traffic demand on the Ukrainian ports for transit operations and related activities.
- (iii) **Employment re-organization and contraction.** The actual port system appears over-staffed given current traffic levels. In line with the commercialization and privatization of the port operations, a labor re-organization has been considered. Limited amount of employees would remain permanent staff of the Port Authorities or recruited by the newly selected private operators, while most of the unskilled labor would be encouraged to organize themselves as service providers. During this re-organization, a labor contraction is envisaged. The total number of people employed in the sector would move from 30,000 to about 10,000 by year 2005. Labor reduction would be compensated by severance payments of up to 2 years of actual salary. These severance payments, representing an estimated US\$30 million per year over the first 3 years, are financially feasible and have been included in the financial projections. Such payments would also give employees incentives to consider leaving the entities and would increase the number of voluntary departures. At the same time, in order to retain qualified human resources, and contingent on labor productivity improvements, salaries and wages would need to increase, by about 20 percent per year. The port social system has been considered being divested and provisions have been calculated from year 2002 to provide the employees with the purchase power to procure the equivalent services on the market.

**Table 9.3. Ukrainian Sea Ports - Summary Pro-Forma Balance Sheet Projections**  
(1998 US\$ mln)

	1997*	1998	1999	2000	2001	2002	2003	2004	2005
<b>Total Assets</b>	615	697	745	814	886	961	1,050	1,142	1,237
Fixed Assets	472	604	648	689	727	782	833	880	924
Current Assets & Other Assets.	143	93	97	125	158	179	217	262	314
<b>Total Equity and Liabilities</b>	615	697	745	814	886	961	1,050	1,142	1,237
Equity and Reserves	568	650	712	777	844	927	1,013	1,102	1,193
Long-Term Debt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Current Liabilities	47	47	33	37	41	34	37	40	44
<b>Ratios</b>									
Current Assets/Current Liabilities	1.7	2.0	2.96	3.40	3.82	5.29	5.87	6.48	7.10
Revenue Turnover	68.8%	53.8%	51.0%	48.7%	46.9%	46.1%	45.7%	45.6%	45.9%
Receivables Turnover (in days)	61	61	60	60	60	45	45	45	45

\* Actual, 1997

## 10. UKRAINE CIVIL AVIATION

10.1 **Prior to Independence.** Under the FSU, all air transport operations were centralized under one organization – Aeroflot. Passenger air transportation was one of the most heavily subsidized services and accounted for 37% of all intercity passenger traffic in 1990, a remarkably high proportion compared to western countries. The high dependence of air transport in FSU resulted from a combination of factors: (i) the vast distances of the country, (ii) low air fares (50 to 60% less than international flights), and (iii) the relative scarcity of intercity bus and automobile transportation. In 1990, about 22% of FSU traffic (about 30 million passengers) was passing through Ukrainian airports. An important share of leisure traffic was also stimulated by allowances granted by the State-owned employers to their staff for annual vacations.

10.2 **Current Situation.** Since the collapse of the FSU, traffic has fallen by almost 90%. The drop in CIS countries has been slightly compensated by the development of the routes towards western countries. Aeroflot was broken into national entities. Management functions and investment funding which used to be undertaken from Moscow were transferred to entities which were not structured accordingly. Air Ukraine was Aeroflot's successor in Ukraine, inheriting part of its physical assets as well as a share of its operating and institutional structure. Airlines have to face scarce revenue, leading to financial difficulties. Flights are often canceled, either because of lack of passengers or because of cash shortage, preventing the airline from buying sufficient fuel for their flights and from paying airport charges.

10.3 **Incomplete Reform.** Reforms have been attempted, but sometimes diverted from the final objective to create an orderly, sustainable, and safe institutional framework complying with ICAO standards and recommended practices, and compatible with a market-driven sector. Although those objectives are clearly shared by the Ukrainian administration, some technical assistance seems necessary in order to set up a reform program of the sector supported by a timely implementation schedule.

### A. Institutional Organization of the Sub-sector

10.4 **Regulatory Framework.** Several reforms have been implemented since the breakdown of the former geographic department of Aeroflot, the more recent being the adoption of Law#815 on the Civil Aviation Administration of Ukraine, on June 8, 1998. Ukraine was one of the first CIS countries to join ICAO (1992), and further integration to other international civil aviation bodies is on its way. The Air Code adopted as soon as 1993 and the following Law of Transport adopted in 1994, provided the institutional basis of the State Air Transport Department (SATD) placed under the responsibility of the Ministry of Transport. A Ukraine Civil Aviation Development Concept defining the main guidelines of the Government's aviation policy was adopted in 1996. The Law #815 transforms the Department into a Civil Aviation Administration.

The main innovation lies in the merging between SATD and Ukrainavigatsia<sup>27</sup>. This new structure should put an end to the responsibility conflicts, which had emerged when the former organization was created and which could have had an impact on the global level of safety of the whole sector.

**10.5 Organizational Issues.** The new law does not clarify the role of the State Commission in charge of Aviation Safety, Flight Safety and the Utilization of the Ukrainian Airspace. The role of this Commission overlaps with the role of the CAA. Likewise aviation accident investigation is under the responsibility of the CAA, although ICAO Annex 13 recommends full independence to avoid conflict of interest.

**10.6 Economic regulations.** While most technical regulation aspects have been dealt with, economic regulations have not yet been finalized. Regulation covering airlines' economic licensing procedures and requirements, market access rules (routes), and air fares approval procedures (and when fares can be set freely, with dumping or abuse of monopoly situation safeguard clauses) need to be completed. Lessons can be learnt in this respect from the work achieved by the European Union when creating a common market for European Aviation through its Regulations on licensing carriers (CR 2407/92), on access for Community air carriers to intra-Community air routes (2408/92), and fares and rates for air services (2409/92), known as the «third package».

**10.7 Resources.** The new CAA consists of 112 positions, which, considering that 168 people worked for SATD represents an important effort in staff downsizing. Some additional 65 inspectors in charge of technical inspections and certification at airports and airlines are employed by the CAA. Headquarters staff is paid through the national budget, while the inspectors are paid from the Civil Aviation Development Fund which raises its revenues from fees collected upon issuing certificates, and authorizations in the aviation field. The large difference of remuneration between civil servants and the personnel from the newly created state enterprises endangers whole sector organization.

## B. Air Transportation

**10.8 Fragile Air Operators.** After independence, the Aeroflot system split into more than 50 airlines but only six of them provide scheduled services. These are, ordered by increasing traffic (1997) : Odessa Airlines, Dniproavia, Aerosweet, Crimea Air, Ukrainian International Airlines and Air Ukraine, which holds under its umbrella 11 airlines. The industry is in fact highly concentrated, since Air Ukraine flies 51 percent of all passengers carried by Ukrainian airlines, its Borispol based subsidiary company representing more than 40 percent of its whole traffic. Many carriers are virtually bankrupt and, and for those apparently profitable under CIS accounting procedures, generated profit which is comparable to the western definition of cash flow is too low to allow airlines to build provisions for replacing their aging fleet. This situation is also the consequence of the lack of regulation, which, based on a clear definition of a National Aviation Policy, should, *inter alia*, set the financial criteria to be met by applicant airlines in order to ensure a safe and sustainable national aviation industry.

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<sup>27</sup> The regulatory body in charge of supervising and regulating Air Traffic Control activities

**10.9 Traffic.** Current traffic represent 10 percent of 1990 levels (Annex 10.1). Passenger total traffic continued to drop between 1996 and 1997 (-10%), mainly due to the continuing decrease on international (including CIS) networks (-13%), while domestic activity seems to go back to an ascendant trend (+4%). Odessa Airlines, Air Crimea, and other private airlines seem to have most benefited from this recovery. However, air traffic remains mainly constituted by international passengers, which represented in 1997 about 2.5 million passengers or about 75% of the total traffic, with only 30% of the international traffic linked to CIS countries. Freight traffic has shown an important recovery on the international network (+19%), mainly due to the burst of activity from the private sector (+39%) which has more than compensated the drop incurred by the public sector (-23%).

**10.10 Air Ukraine.** The main national operator is in critical condition. The structure of Air Ukraine has considerably evolved making comparison difficult. Its current traffic has dropped to 910,000 passengers but staff level remain high (9,000). It has an active fleet of 100 FSU made aircraft, which flies only 700 hours per year compared to international standard of 2,500 to 3,000 hours per year. Its obsolete fleet affect adversely its maintenance and operating expenses (twice the fuel consumption of modern aircraft, large crew needed, long ground time). Most of the fleet needs to be replaced as it reaches the end of its life cycle and will soon be non-compliant with EU and US standards.

## Issues

**10.11 Partial International Integration.** Ukraine has already signed 36 and ratified 19 bilateral air agreements but competition remains limited. Most Western Airlines have flights to and from Ukraine, linking the country with most European economic centers.

**10.12 Restriction to Entry.** Bilateral agreements are based on shared capacity, with frequency and/or aircraft capacity restrictions, which limit new entries. Several attempts to serve the country by foreign charter or scheduled airlines seem to have been discouraged by the bureaucratic procedures and the high level of royalties (15 percent of revenues) required by the Ukrainian side<sup>28</sup>. These procedures introduce discrimination based on carrier nationality, and supports the current oligopoly set up between Western Europe carriers and Ukrainian International Airlines, rather than promoting competition. It explains to some extent, high fares to and from Ukraine.

**10.13 Inappropriate Tax System.** The tax system applied to local airlines is prejudicial to the national airlines and makes them less competitive on international markets. Many costs are not considered as tax deductible. These include insurance, pilot training when performed abroad, spare parts for aircraft maintenance which have to be depreciated. Provisions for expensive planned maintenance costs (D-check) are not allowed, and aircraft depreciation rules are not consistent with economic reality. The compulsory tax for the road fund (1.6% of revenues) represents in itself an important share of the average margin usually expected in the international industry. Aircraft leases are heavily taxed when they are contracted with off-shore lessors, preventing the use of this internationally attractive tool.

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<sup>28</sup> Under the current Law #819 of 28 October 1993 which sets the fees raised to feed the Civil Aviation Development Fund, any additional capacity offered by a foreign carrier is taxed at a 15% rate on its revenues. Such royalties when not compensated by equal capacity by a Ukrainian operator affect mainly charter flights and those scheduled flights with countries not served by a Ukrainian airline due to either commercial or resources constraints.

10.14 **Air Ukraine's Future (Annex 10.1).** Unlike its successful sister company (Box 10.1), Air Ukraine faces considerable challenges. Air Ukraine's financial situation deteriorated sharply due to an inappropriate tax system and too low tariffs. Its main routes -CIS and long haul- are of low profitability and face increasing competition. A rightsizing of its fleet and its modernization is required to ensure proper services. However the current lack of finance guarantees prevents the arrangement of leasing contracts<sup>29</sup>. Simultaneously, Air Ukraine must dispose of its unproductive assets. Without deep structural adjustment, the needed investment program for Ukrainian Airlines is out of reach.

**Box 10.1. Ukrainian International Airlines (UIA) Success.** UIA was set-up in 1992 as a joint venture between the Ukrainian Government and the Irish aircraft lessor Guinness Peat Aviation (GPA). Since then, it has been joined by Austrian Airlines, leading to the following ownership breakdown of its US\$49 million capital stock: 18% by Austrian, 13% by GPA, and 68% by the Government of Ukraine which are held now by the State Privatization Fund (SPF) and not any more by the Aviation Department, although the latter one is still represented at UIA's Board of Directors. UIA has concentrated its efforts on Western-Europe routes from Kiev, and to a few direct flights between Vienna and Odessa, Lvov, and Kharkov, in close collaboration with Austrian Airlines. The strategy to create and promote the development of a modern, western-like airline, i.e. UIA, able to compete on western markets while Air Ukraine was pursuing its former activity on CIS countries, has proven rather successful: after only a few years of operation, UIA is now recognized by its foreign counterparts as a real and respected competitor.

### Recommendations

- A specific tax regulation needs to be elaborated to support the national industry in close collaboration with the CAA.
- **Air Ukraine's Commercialization.** A Business Plan for Air Ukraine should be prepared. It should address commercial practices, information management systems, including cost accounting, rightsizing of fleet and acquisition of new aircraft on a sustainable basis.

### C. Airports

10.15 **Airport Organization.** Ukraine benefits from a very extensive airport system. Thirty eight airports are theoretically open to commercial traffic, their historical justification being based on the lack of an efficient road network. Up to now, only three airports in Ukraine have been separated from their airlines: Kiev-Borispol in 1993 and Simferopol in 1997 which have been both granted a state-owned joint company status, and Kiev-Zhulyany in 1994 which has been transferred to the Municipality of Kiev. All other major airports are still run by airlines. In most cases, airport based airlines oppose separation hoping to keep their airport as a market control tool.

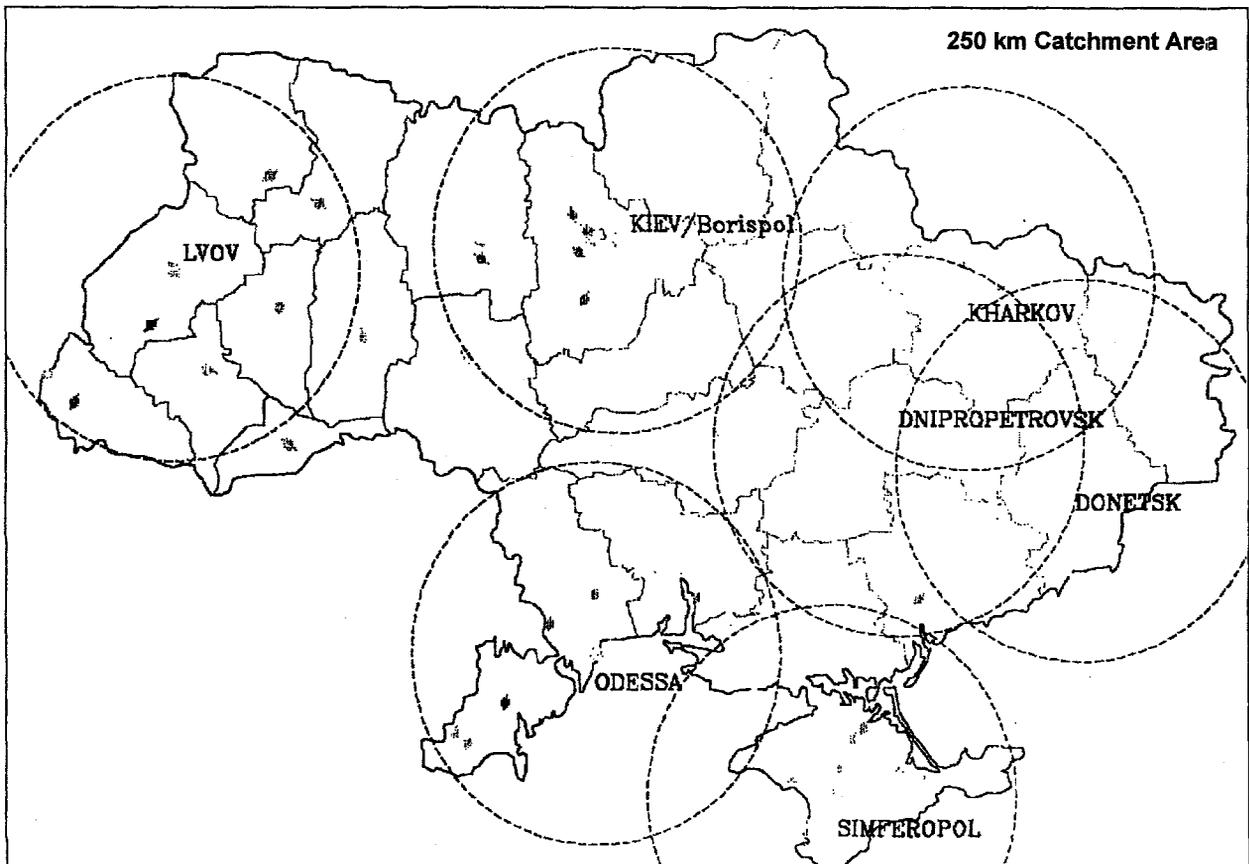
10.16 **Traffic Drop.** Total airport traffic has sharply dropped from almost 30 million passengers in 1990 to 3.2 million in 1997 (Annex 10.1). The drastic decrease of traffic has mainly occurred in secondary airports and in the airports of Lvov and Kharkov. The level of traffic of these airports is less than 5% of the 1990 volumes and represents in 1997 only 8% of the total traffic. The Borispol International Airport operates more than 50% of traffic volumes down 75

<sup>29</sup> The purchase of new generation aircrafts (second hand/ Chapter 3 aircraft) could be justified (Annex 10.1).

percent from 1990 traffic. Kiev, Simferopol and Odessa airports represent about 80% of the international traffic.

### Airport Issues

10.17 **Overcapacity.** A system of seven airports would be far sufficient to provide the whole country with an efficient airport network, i.e. Kiev-Borispol, Dnepropetrovsk, Donetsk, Kharkov, Lvov, Odessa, and Simferopol. Map 10.1 indicates the area covered by these airports, on the basis of 250km catchment areas. Considering the actual and forecast traffic, no more than 50 % of the existing infrastructure will be required on the basis of financial sustainability.



10.18 **Deterioration of Assets.** Airport runways are in poor condition. The lack of maintenance in the past years has led to serious infrastructure deterioration in most regional airports. Runways lengths are generally far sufficient to serve most aircraft. However insufficient runway strength constrains the use of modern aircraft. A description of assets status is provided in Annex 10.2.

10.19 **No Overall Strategy.** The Government lacks an airport strategy. For example, urgent refurbishment decisions have been postponed at Odessa airport because FSU laws dating back to the 80s had planned its relocation. There is also a lack of consensus among key decision-makers in the sector on the best approach to resolve all these issues.

10.20 **State Intervention.** Tariffs regulation and lack of financial autonomy have generated a lack of financial discipline. The regulatory regime is not suited to private participation in the provision of airport services. Airport fees are regulated by the State Department of Air Transport. The State Department of Air Transport can change fee rates and level at the request of each airport subject to approval.

10.21 **Financial Weakness.** Apart from Borispol International Airport where traffic remains over 1 million passengers, most Ukraine's main airports would show financial losses if international accounting standards and proper maintenance norms and depreciation were to be applied. Domestic airlines pay only part of landing and airport charges, building up large arrears in airport accounts. The financial burden of social and ancillary activities imposed on the airport management dilutes financial resources (Kharkov airport maintains a 50,000 inhabitant city).

10.22 **Handling.** At Borispol airport, self handling is not authorized, and airlines have to subcontract their handling to Air Ukraine or a private company Avicon<sup>30</sup>. Western carriers subcontract mainly to Avicon for quality of service reasons and CIS carriers use Air Ukraine.

## Financial Performances

**Table 10.1. Financial Highlights  
Airports**

for the year ended December 31st  
(in million US\$'s)

Source : TTC	1995	1995	1995	1995
	Borispol	Zhulyany	Simferopol	Zaporozhye
Operating airport revenues	22.678	1.578	3.022	0.861
Working Expenses	12.189	1.000	1.911	0.472
Operating Result before depreciation	10.489	0.578	1.111	0.389
Estimated depreciation*	1.000	0.500	0.500	0.250
Net operating result	9.489	0.078	0.611	0.139
Traffic (million pax)	1.332	0.310	0.577	0.081
Working Ratio	54%	63%	63%	55%
Operating Ratio	58%	95%	80%	84%
Pricing Ratio (in US\$/pass.)	17.03	5.09	5.24	10.63
Costing Ratio (working expenses in US\$/pax)	9.15	3.23	3.31	5.83
Costing Ratio (operating expenses in US\$/pax)	9.90	4.84	4.18	8.91
Operating Cash Flow before tax	10.489	0.578	1.111	0.389

\* to be updated

10.23 **Financial Comparison.** The comparison between Borispol, Zhulyany, Simferopol and Zaporozhye is interesting for the anticipation of the financial strategy that the government needs to define and implement (Table 10.1). The Borispol International Airport with a traffic around 1.3 million passengers, mostly international traffic, presents a pricing ratio which is about 3 times higher than the airports of Zhulyany (about 300 thousand passengers mostly domestic traffic) and Simferopol. The operating expenditures clearly do not reflect a normalized situation with appropriate level of maintenance and proper depreciation policies. The main explanation is the permanently changing legislation on assets revaluation and amortization. This is confirmed by the

<sup>30</sup>Joint-venture between Borispol Airport (40%), Avicon Austria (40%), and Ukrainian International Airlines (20%).

very low contribution of the yearly depreciation to net cash flows (profit before tax represents about 10 times the yearly depreciation in 1995).

**10.24 Borispol Financial Highlights.** In 1995, the Borispol International Airport financial situation is characterized by high profit and cash flow levels. However a comparative analysis of the last three fiscal years (Table 10.17 in Volume III) shows that the situation of airport operations is deteriorating at Borispol Airport. Working ratio jumped from an estimated 68% in 1996 to 85% in 1997, mainly because of an increase of more than 30% in labor costs. In 1997, it is estimated that airport operations show a loss of about 2.5 million US\$. Although total generated cash stayed at about the same level between 1996 and 1997 (because of revenues generated by non airport activities), the estimated cash flow generated through airport activities was halved between 1996 and 1997 (the contraction of revenues factor is estimated to be 3 between 1995 and 1997). Fiscal years 1996 and 1997 are being presented according to IAS in Annexes 10.1.7&8.

### **Future for the Airports**

**10.25** Future overall developments in the air sector are expected largely to follow broader economic development trends. In the actual organization of the airport system and the numerous externalities constraining the development of airport operations, traffic is expected to increase slowly as the economy recovers, although a faster demand growth could exist for some of the main airports. At the anticipated growth rates, traffic levels are unlikely to return to 1989 levels in the coming years.

**10.26** Given these considerations, it is advisable for the government to proceed slowly and carefully with any decision to provide funds for any airport and first ensure the separation of ownership between airline and airport. Airports would need to be financially autonomous and self-sufficient, and allocate access on a non-preferential, freely competitive basis as determined by market demand.

**10.27** If demand picks up, airport improvements should be financed from a combination of concessions, providing the adequate regulatory, legal and financial framework. Moreover, any financing or concessionary agreements should be made in a way that provides access to a number of competing operators. Investment needs and requirements should be optimized by a large involvement of the competitively selected private operators to be awarded the airport concession(s). Where airport investments are economically and financially justified, the airport should be financed mostly by the private sector, with fees from passengers and freight-forwarders, and landing fees. Construction works should be done by the private sector after competitive bidding.

## **Airport Sector Financial Sustainability Strategy**

10.28 The strategy to be developed should be designed to set up regulatory, institutional and financial arrangements in the airport sector which will enable greater private sector participation and the effective corporatization of viable airports and privatization of Ukraine's airport services and selected airports within a comprehensive, competitive framework. Enhancement of the operational efficiency of the system, and increased competition in the sector to reduce costs are the main benefits expected. The basic approach to the airport sector reform envisaged is articulated around the following main principles:

- a) Ministry of Transport, through a specialized and professional agency will remain responsible for Ukrainian airport regulations and will seek to foster competition in order to encourage efficiency, lower costs and improve competitiveness of Ukrainian airport services.
- b) The main individual airports, which are considered to be viable at the existing and realistically forecast level of traffic, will be owned and administered by one or several autonomous Airport Authority (ies). These entities should be self sustaining that do not receive support from the general budget or local budget, except payments for specific public service obligations rendered by the airport.
- c) Airport operations will be commercialized, and wherever feasible, be entrusted to the private sector through concession or joint ventures agreements<sup>31</sup>. The Airport Authority (ies) will seek to ensure that each operating company faces competitive pressure either from: (i) other airports; (ii) internal competition within the airport; or (iii) through a process of re-bidding agreements and concessions after a specified period of time.
- d) Airport Authority (ies) and private operators will have the freedom to set tariffs, fees and fares. Charges for airport services should be set at a level designed to cover operating costs, recover capital expenditures and encourage investment in the sector; but should not result in a surplus that unnecessarily taxes air transport operations.
- e) All existing airports will be free to enter into any commercial activities, which do not require subsidies and which produce economic benefits to the country or the region.

10.29 **Prepare a Strategy.** The government will need to prepare an Airport Development Strategy and plan for privatization in the airport sector. It would address the major issues in opening to the private sector and provide a road map for the transition from publicly owned companies to private sector. This Airport Development Strategy should cover most of the pending issues and identify and implement the most appropriate privatization strategy for airport operations. It should also clearly define for the future: the role and functions of the State, Ministry of Transport, Civil Aviation Administration of Ukraine, private sector, airport users, international and domestic airlines, customs. It should also clearly recommend infrastructure-financing schemes, financial mechanisms for financing airport development, sector regulation and monitoring.

10.30 **Interim Corporatization.** As a short term interim step to implementation of the airport privatization policy, and while the privatization strategy is being prepared and clearly defined, the

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<sup>31</sup> The creation of municipally owned airports such as in Bournemouth (England) could be an alternative solution.

government should implement, a corporatization program in the airport sector. This means that the government will define and implement an organizational structure in line with a competitive framework, create autonomous, self-sustaining and competing airport entities for the airports considered viable. Airport sector enterprises will be restructured into commercial entities, which can be privatized under concession mechanism. This should include regulatory reforms, divestiture from social and “ancillary” activities, restructuring of any existing agreements between airports and airport operating companies. It also includes reviewing and rationalizing tariff, fees and fares regulations, restructuring the financial management systems (Statistical and management information systems require significant improvements) of airport entities, reviewing the applicable tax system and resolving rightsizing issues (assets and labor) affecting the efficiency of these entities.

10.31 **Handling.** At Borispol, traffic level is high enough to authorize at least passenger self-handling. Since handling is a full part of an airline’s marketing strategy (image, product, and quality of service), the choice to perform directly or to sub-contract this activity should be left to the individual carriers. Liberalization of ground handling activities can be achieved following a scheme inspired from the European Union actions adapted to the specificity of the Ukrainian situation, e.g.: the English version of the Directive n° 96/67/EC on access to the ground handling market at Community airports adopted by EU in 1996. In particular, it can be noted that the directive provides that :

- i) two years after its adoption, self handling other than ramp, fuel and baggage handling was to be allowed on all airports, regardless their traffic volume,
- ii) two years after its adoption, ramp, fuel and baggage handling was to be reserved to no less than two airport users on airports of more than 1 million passengers per year, which is the case of Borispol,

#### **D. Financial Sustainability and Projections**

10.32 **Approach.** The most critical issue in the airport sector is to transform the main airports into commercial, financially sustainable independent corporations, which will handle efficiently a growing demand for air transport. In line with the key elements of the proposed airport sector presented in the previous section, indicative financial projections were elaborated. These were computed on the basis of Borispol International Airport current financial information and the information from the TACIS Study on the sector (see Tables 10.2 and 10.3 below and Tables 10.1 to 10.5, Volume III: Annexes and Statistical Appendix). The proposed. Financial forecasts<sup>32</sup> take into account the institutional re-organization and the main financial adjustments anticipated and were built on demand projections under the *Complete Reform scenario* (see Chapter 4). Restraining from implementing significant institutional reform and financial adjustments would put the airport sector into an increasingly unsound financial situation, which will accelerate de-capitalization.

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<sup>32</sup> Financial projections were prepared in 1998 US\$.

**Table 10.2. Ukrainian Airports - Summary Pro-Forma Income Statement Projections  
(1998 US\$ mln unless otherwise indicated)**

	1997*	1998	1999	2000	2001	2002	2003	2004	2005
<b>Traffic</b>									
Passengers (mln) of which:	3.2	3.2	3.5	3.9	4.2	4.4	4.6	4.9	5.1
International – Borispol	1.4	1.4	1.5	1.7	1.9	2.0	2.1	2.2	2.3
International- others	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6
Domestic	0.7	0.7	0.8	0.9	1.0	1.0	1.1	1.2	1.2
<b>Tariffs</b>									
Avg. Revenue (US\$/pax)	14.0	14.5	15.6	17.2	18.9	19.8	20.8	21.9	23.0
Employees in the Sector **	10,000	10,000	7,500	5,625	4,219	4,008	3,807	3,617	3,436
Operating Revenues	46	46	55	66	80	88	97	107	118
Operating Expenses	55	60	60	61	62	70	74	78	82
Net Profit After Tax	(10)	(14)	(9)	(1)	5	4	6	7	9
<b>Ratios</b>									
Working Expenses / Revenues	77%	84%	66%	54%	46%	43%	40%	38%	37%
(W. Expenses + Depr.) / Revenues	121%	129%	108%	91%	78%	80%	76%	73%	69%

• Actual, 1997

10.33 Three specific areas of the airport development strategy have been particularly addressed in the financial projections. These include: (i) re-dimensioning of the national airport system including modernization to respond to the growing demand; (ii) staff contraction to reach industry standards through privatization of airport operations and salary increases; and (iii) cutback of receivables and an arrears repayment program.

- (i) *Re-organization of the national airport system.* The proposed airport system will be articulated to cover the territory with seven airports: Kiev-Borispol, Kharkov, Dnipropetrovsk, Donetsk, Lvov, Odessa, Simferopol on the basis of a 250 km catchment area. The system could be eventually reduced to six airports. Fixed assets have been very indicatively estimated for these seven airports, considering divestiture of all social assets and non core business assets and equipment. Modernization of fixed installations and equipment will have to be provided for. Limited part of it can be financed through the funds generated from operations; this portion has been considered and represent about US\$ 200 million over the period. It is foreseen that a detailed airport-specific asset revaluation, made by qualified auditors, might be needed. This revaluation would take into account all assets currently used on the core business line and in working condition. All other assets would either be divested, or written-off the accounts and put to auction. The average remaining life of the re-valued assets, along with the corresponding average depreciation rate, would then be assessed and revised as necessary.
- (ii) *Employment re-organization and contraction.* The actual airport system appears to be over-staffed given current traffic levels. In line with the foreseen privatization of the airport operations, limited amount of employees would remain staff of the Airport entities or recruited by the newly selected private operators. A staff contraction is envisaged. The total number of people employed in the sector would move from 10,000 to about 3,500 by year 2005. Employees reduction would be compensated by severance payments of up to 2 years of actual salary. These severance payments,

representing an estimated US\$10 million per year over the first 3 years, are financially feasible and have been included in the financial projections. Such payments would also give employees incentives to consider leaving the entities and would increase the number of voluntary departures. At the same time, in order to retain qualified human resources, and contingent on labor productivity improvements, salaries and wages would need to increase, by about 20 percent per year. Divestiture of the social services has been considered, and provisions have been calculated from year 2002 to provide the employees with the purchasing power to procure equivalent services on the market.

**Table 10.3. Ukrainian Airports - Summary Pro-Forma Balance Sheet Projections  
(1998 US\$ mln)**

	1997*	1998	1999	2000	2001	2002	2003	2004	2005
<b>Total Assets</b>	<b>365</b>	<b>351</b>	<b>334</b>	<b>328</b>	<b>332</b>	<b>333</b>	<b>347</b>	<b>365</b>	<b>388</b>
Fixed Assets	275	287	290	287	284	296	306	314	322
Current Assets & Other Assets.	90	65	46	44	53	43	46	56	71
	<b>365</b>	<b>351</b>	<b>334</b>	<b>328</b>	<b>332</b>	<b>333</b>	<b>347</b>	<b>365</b>	<b>388</b>
Equity and Reserves	335	321	288	286	293	304	319	338	362
Long-Term Debt	10	10	9	8	7	6	5	4	3
Current Liabilities	20	20	17	14	12	4	4	4	4
<b>Ratios</b>									
Current Assets/Current Liabilities	2.00	2.00	2.71	3.05	4.28	11.09	11.49	13.16	16.05
Revenue Turnover	16.5%	16.1%	19.1%	23.1%	28.0%	29.7%	31.6%	33.9%	36.5%
Receivables Turnover (in days)*	275	272	193	137	97	90	90	90	90

• Actual, 1997

\* Mainly in Borispol International: US\$ 25 mln as pre

### E. Air Traffic Control (ATC)

10.34 **Institutional Structure.** Ukraine has been one of the first CIS countries to separate its ATC activities from the former Aeroflot structure. A regulatory/supervising body was created with the "State Committee for Air Space Control and Air Traffic Management" (Ukraeronavigatsia), while operating and implementing functions were delegated to Ukraerorukh, an autonomous entity entitled to collect air navigation charges using Eurocontrol and reallocate them directly to finance navigation aids renewal and upgrading. **Ukraerorukh** is structured as a State enterprise and is responsible for en-route ATC over the entire Ukrainian airspace, as well as for approach and tower control at several airports. Its manager is appointed by the Ministry of Transport. Independence from the Civil Aviation State Department used to be a source of conflict but this issue should be solved with the new organization of the sectors adopted in June 1998, since Ukraeronavigatsia functions have now been transferred to the newly created CAA.

10.35 **ATC Activities.** Ukraerorukh holds about 160,000 flights per year, i.e. 600 flights per day at peak time. 90% of the flights being international. Its activity has significantly increased (tripling since 1993) due to opening of new routes and traffic developments between Western and

Eastern Europe, while facing an important seasonality (1:3 ratio). Its staff of 5000 employees, including 2000 controllers, remains quite oversized in view of current traffic levels.

10.36 In terms of investments, Ukraerorukh is going through an extensive up-grading program of its facilities (US\$25million) to be financed jointly by the Government and EBRD, while up-grading at Borispol (US\$10million) is already completed and partly reimbursed.

10.37 **Issues.** The links with meteorological services, and the clear definition of the State's delegation of responsibility and international obligations concerning the provision of aviation information services (AIS) such as defined in the Chicago Convention (ICAO) Annex 15 need to be finalized. Besides, the lack of suitable cost accounting methods at this entity prevents the evaluation of the real cost of ATC and from providing justification for the level of navigation and landing fees. En-route fee levels are similar to those in the rest of the world (to the level of which they have in fact been aligned to rather than reflecting real incurred costs), which is in contradiction with ICAO recommendation that navigation fees should reflect real costs. Ukraerorukh's financial results in 1997 indicate that it paid US\$7 million in tax out of its generated revenue of US\$39million. This represents a transfer of wealth from the Civil Aviation towards the State budget, also in contradiction with ICAO recommendations since it creates extra cost passed on the airlines, while preventing the ATC entity from building the necessary provisions for future investment.

## F. Recommendations

### Institutions

- a) The institutional framework of the Civil aviation sector should be finalized while clearing pending issues, including but not limited to those identified during this review, i.e., role and responsibilities of the Commission for Aviation policy, flight safety, utilization of Ukraine's airspace, accident investigation bureau, aviation information services, and meteorology functions;
- b) Regulation framework fostering competition and freedom to set tariffs, fees and fares should be finalized;
- c) A medium term air transport (airline) policy should be elaborated, while taking into account the global benefits to the economy, not limited to those benefits for the aviation sector;
- d) Civil servant salary should be reviewed.

### Airports

- a) Full separation of all airports and airlines should be implemented, with a high priority given to major airports, i.e. Odessa, Kharkov, and Lvov;
- b) Airport operations will be commercialized, and wherever feasible, be entrusted to the private sector through concession or joint ventures agreements
- c) Non-aviation social activities should be transferred to corresponding entities (hospital, kindergarten, "villages");

- d) All existing airports should be free to enter into any commercial activities, which do not require subsidies and which produce economic benefits to the country or the region.
- e) An Airport Development Strategy and plan for privatization should be elaborated in order to define long term priorities in terms of airport investment policy;
- f) Project dating from FSU times of relocating Odessa airport should be canceled in the light of current traffic levels and trends;
- g) The opportunity of keeping the city locked airport Kiev-Zhulyany open to scheduled traffic, should be addressed taking into account costs, economies and environmental gains that the transfer of its operations to Borispol would bring to the State and to the operators;
- h) Legal framework for airport concession should be elaborated in the light of current development in this field in Ukraine, while including issues specific to the airport sector.
- i) Leading to airport privatization, a corporatization of the airport sector as outlined in para. should be undertaken.

### **Airlines**

- a) **Rightsizing.** On the short-term, Air Ukraine should be restructured including downsizing of its fleet to existing needs, reducing staff, separate activities which are not directly connected to commercial transportation (such as aerial work, agricultural work); a medium term business plan should be elaborated; business fares should be increased and a discounted fare for non-time sensitive passengers introduced.
- b) On the medium-term, a strategy for Air Ukraine privatization should be elaborated.

**10.38 Technical Assistance Support.** Many studies have already been done in the aviation sector and the Ukrainian administration is well aware of the overall objectives it needs to achieve. Main issues lie in the implementation of strategies needed to set up the adequate policy and institutional framework. An estimated US\$4.5 million of technical assistance is needed, with special focus on implementation processes (Annex 10.3).

## 11. TRANSPORT AND ENVIRONMENT

### A. Transition and Environment

11.1 The challenge for Ukraine is to pursue a policy of economic development without increasing negative effects on the environment. In recent years the amount of harmful emission has drastically dropped because of the economic contraction. In spite of the substantial reduction in harmful emissions, their amount remains large at about 40 kg per capita. Any stabilization and growth leads to increasing pollution if not accompanied by relevant measures. Two types of action need to take place to avoid returning to previous pollution levels: (i) minimizing environmental harm if negative side-effects cannot be prevented; (ii) maximizing the benefits of improving effectiveness and efficiency.

**Table 11.1. : Emissions of Harmful Substances by Road Vehicles of Ukraine**

Year	Emission, thousand tons						
	CO	CmHn	NOx	Σ	SO2	Pb	C
1986	5409	1122	310	6837	0	0	0
1991	4469	939	281	5544	0	0	0
1996	1623	312	154	2089	14	0.3	13.2

Source: Ministry of Environmental protection

11.2 **Environment Improvement by Restructuring.** An economic restructuring departing from traditional characteristics of Ukraine would, presumably, be accompanied by environmental improvements. The general overuse of transport due to specialization production in a few locations will progressively disappear. The predominance of rail transport if supported by an aggressive commercial strategy may reduce the modal transfer to road transportation. The development of private enterprises will give the needed technology push to improve environmental performance. Free pricing mechanisms and investments will progressively take environment considerations into account and the private sector will progressively shift to more fuel efficient vehicles as road user charges are introduced.

### Environmental Impacts and Sustainable Transport

11.3 **Main Impacts.** In general, 7 main categories of environmental aspects can be distinguished: pollution of air, water resources, land resources, solid waste, noise, accident risk and spatial impacts. In the next table 11.2, these main impacts are described for the three transport modalities that are relevant. The environmental impacts described in the table below, include the use of energy by the transport system. The different transport modes use different energy

resources, with different impacts on air quality (e.g., the differences in the use of diesel and nuclear energy in Ukraine).

**Table 11.2. : Overview of Environmental Impacts of Transport**

Mode	Air	Water Resources	Land Resources	Solid Waste	Noise	Accident Risk	Spatial Impacts
Rail	Diesel traction: NOx, particles, CO, CO <sub>2</sub> ; Electric traction Dependent on power generation (e.g. nuclear energy)	N/A	Land taken for rights of way & terminals; dereliction of obsolete facilities	Abandoned lines, equipment, rolling stock Electric traction: Dependent on power generation: nuclear waste	Noise and vibration along lines and around terminals	Risk of derailment or collision, esp. in case of hazardous materials; accidents on road transport crossings	Partition or destruction of neighborhoods, farmland & wildlife habitats; resettlement
Road	Lead, particles, NOx, CO, HC, CO <sub>2</sub> , CFC's	Pollution of surface water & groundwater by surface run-off; modification of water systems by road building	Land taken for infrastructure; extraction of road building materials	Abandoned spoil tips & rubble from road works; road vehicles and tires withdrawn from service; waste oil; liquid chemical waste	Noise and vibration from cars, trucks, busses and motorcycles in cities and along main roads	Deaths and injuries & property damage from accidents, risk from transport of hazardous materials; risk of structural failure in old or worn road facilities	Partition or destruction of neighborhoods, farmland & wildlife habitats; resettlement; congestion
Water	NOx, CO, Sox	Pollution of surface water by oil spilling	Solid waste (e.g. from dredging)	Abandoned and/or sunken vessels	N/A	Risk of collision	Congestion near harbors
Air	CFC's, NOx, O <sub>3</sub> , CO <sub>2</sub> , CO, etc.	Modification of water systems by airport and runway construction	Land taken for infrastructure	Scrapped aircraft	Noise pollution	Risk of air-crashes; collision on urban areas	Partition or destruction of neighborhoods, farmland & wildlife habitats;

Source NEA Transport Research

## Political Support for Sustainable Transport

**11.4 International Commitment.** Ukraine participated in an ECE conference held in Vienna (12-14 November 1997) regarding transport and environment and signed the declaration. This declaration states the directions to be followed towards a sustainable transport system. Ukraine has also joined a Central and Eastern European initiative on sustainable transport.<sup>33</sup> This group intends to implement the following practical steps: (i) introduce transport as an item of sustainable development direction; (ii) assign issues and develop standards to transport (to protect the environment); (iii) develop, support and implement strategy for passenger and cargo transport; and (iv) pay special attention to environmental costs. Following this initiative, the Transport Academy has performed a study for the Ministry of the Environment. The tables used in this chapter partly derive from this report. It should be noted that the Ministry of Environment indicated that the reliability of the statistics may be limited because of outdated methods used to gather the information.

<sup>33</sup> Member-states are: Albania, Austria, Belarus, Bosnia, Bulgaria, Croatia, Check Rep., Hungary, Macedonia, Moldova, Poland, Rumania, Slovakia and Ukraine

## B. Main Issues

### Selection of Priorities

11.5 A sustainable transport system must both prevent negative external effects of transport and optimize the environmental benefits related to improved efficiency. Sustainability in transport means meeting environmental, economic and social objectives on a long-term basis. A major concern for Ukraine is to improve efficiency and transparency in transport markets. This review has identified the following key issues: air pollution, transport of dangerous goods, environmental impact assessment and modal shift.

11.6 Air pollution is a priority because human life is directly and seriously affected by lead in air, by airborne dust, by sulfur dioxide and other gases. Although general population density in Ukraine is low, much of the country's population lives in urban areas with concentrations of air-pollution. Major expenditures to ensure the proper transport and disposal of waste in Ukraine, especially nuclear waste and liquid and solid waste from mines, are likely to be needed in the future. Environmental impact assessment is an essential tool in addressing the environmental issues as infrastructure restructuring projects are planned and executed. Modal shifts with the increasing market share of road freight transport and private passenger transport is an issue requiring attention to standards and environmentalists.

### Air Pollution

11.7 **The Problem.** The most serious environmental issue in the field of transport and environment is air pollution. In many Ukraine cities, transport account for a significant part of total emissions. Emission level are high especially in nitrogen oxides and dust, organic components and heavy metal. The figures for total emissions to the atmosphere in million tons over 1993 were 2.6 million tons of solid particles, 2.4 million tons of CO, 1.7 million tons of SO<sub>2</sub>, and 0.6 million tons of NO<sub>x</sub><sup>34</sup>. In 18 out of 52 cities of Ukraine which were surveyed in 1993, violations of the air quality regulations were reported. Road transport can be held responsible for the largest share of total emissions from the transport sector. Two critical parameter influence the level of air pollution: quality of fuel and condition of vehicles.

11.8 **Existing Laws.** The convention on long range transboundary air pollution has been signed by Ukraine (including the protocols on Sulphur emission and Nitrogen Oxide). Furthermore Ukraine is a party to the UN Convention on Climate Change (1992) and the Kyoto agreement. Nationally, the basic legal framework with regard to air pollution can be found in the Law "on the atmospheric air protection" (16 October 1992). The resolution "On setting maximum limits of negative influence on the environment" defines such factors as noise, radiation etc. The standards for international transport are based on legislation from the European Union (EU). For domestic transport, the FSU standards apply. They take into account the peculiarities of the FSU engine design. These standards are less strict than European ones.

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<sup>34</sup> At present air quality observations in Ukraine are provided by the State Committee for Hydrometeorology, Ministry of Health, Ministry for Environmental Protection and Nuclear Safety.

11.9 **Quality of Fuels.** Transport in Ukraine consumed about 8% of the total energy resources in 1995 (oil and lubricants) and road transport 83% of this amount (Table 11.3). Leaded fuel refined in FSU contains 0.17-0.37 g/liter. The market share of leaded fuel is estimated on 20%. Diesel may contain up to 0.5% of sulfur or about ten times more than in Western Europe (EC-directive 93/12 gradually limits the sulfur content of diesel). Around 60% of total fuel consumed is reported to be low octane, refined in Ukraine. Most imports of fuels (the remaining 40% of total usage) consists of high octane, leaded fuel. In theory the gasoline must be certified by Ukraine; imports need an ecological certificate, exports need an export certificate. The legal framework provides for a certification system to control the quality of fuel. However, the authority over the quality of fuel collapsed completely as there are no practical enforcement mechanisms. There are no incentives to either sell or import unleaded fuel. Old vehicles consume the low quality fuel resulting in poor combustion and high fuel consumption. Table 11.4 presents the average emission of some different fuel types (kg/t of fuel).

**Table 11.3. : Fuel Consumption per Mode**

Mode of transport	Fuel type, ton					Total
	Gasoline	Diesel fuel	Liquefied oil gas	Compressed natural gas	Other	
Road	4236175	1490000	38777	161498	174	5926624
Rail	39851	713600	2741	2023	0	758215
Sea & river	9915	323275	0	12571	128747	474508
Total	4285941	2526875	41518	176092	128921	7159347

Data provided by the Ministry of Transport to the TACIS office

**Table 11.4. : Fuel Types and Emissions**

Fuel type	CO	CH	NOx	C (soot)	SO2	PB
Gasoline	196.5	37.0	21.8	0	0.6	0.35
Liquefied oil gas	196.5	37.0	21.8	0	0.3	0
Diesel fuel	36.0	6.2	31.5	3.85	5.0	0
Compressed natural gas	87.5	27.6	27.6	0	0	0

Source: Transport Academy/Ministry of Environment

11.10 Currently, Ukraine's Government is supporting a program to phase out leaded fuel. At this moment the use of low quality fuel is the cheapest option. The price per liter at the pump for low octane fuel is around USD 0.32, for high octane fuel USD 0.47 and the price of Diesel is around USD 0.24. Compared to the rest of Europe, Ukrainian prices are among the very lowest.

11.11 **Technical Condition of Vehicles.** The vehicle fleet is in poor condition resulting in high emissions per vehicle. The bulk of the Ukrainian transport fleet is made up of vehicles of over 10 years old. Only 20% of the fleet is less than 5 years. Furthermore the structure and loading capacity are not efficient with regard to the demands of the transport market (80% is fixed on heavy and medium-heavy loads, most trucks use gasoline). Combined with a growing automobile fleet this is a major concern. Catalytic converters have been removed from imported vehicles (they cannot be used because of the use of leaded fuel). For freight transport only the trucks used for international transport to Western Europe are in a good condition. This is to a certain extent a result from the ECMT (European Commission of Ministers of Transport) regime where a system

of "green" and "supergreen" has been established. Following this agreement, growth in the number of ECMT licenses for multilateral road transport is restricted to lorries meeting the highest environmental and safety standards.

11.12 In the regulatory framework no clear distinction is made between type-approval and roadworthiness tests. Vehicle tests can be performed by either certified garages or the police. However the private garages do not have the necessary equipment for reliable testing. The roadworthiness tests performed by the traffic police do not guarantee a neutral view of the state of the vehicle. State owned vehicles (e.g. from public transport enterprises) are usually tested at their own facilities.

### Modal Shift

11.13 **The Problem.** For longer distances there is a danger that road transport will become the dominant mode for transport of passengers and goods on (longer) distances where the railways are the environmental sound mode. Dominance of the private vehicle results in a set of negative external consequences for the environment. Congestion in cities leads to environmental and economical costs as has been shown in Western Europe, where central areas are decaying, energy consumption and associated emissions are escalating.

11.14 **Freight Transport.** The proportion of freight carried by road for domestic transport is 70% (including multimodal and container transport). The share of road transport in the international transport is likely to grow depending on the development of new export markets. The competitiveness of rail is eroding compared to road transport as international road operators increasingly offer better services and the road sector is liberalized. The impact of road transport on environment being far superior to that of rail transport (Table 11.5 and 11.6), brings up the need to monitor closely this evolution.

**Table 11.5. Environment Impact per Mode**

Energy consumption and emission per mode							
	Energy (Kwh/tkm)	CO (g/tkm)	NO <sub>x</sub> (g/tkm)	SO <sub>2</sub> (g/tkm)	HC (g/tkm)	CO (g/tkm)	PM (g/tkm)
Road	0.20	53	0.62	0.013	0.037	0.080	0.0150
Rail	0.042	0.88	0.0016	0.0018	0.000013	0.00098	NI
Sea	0.060	16	0.44	0.25	0.017	0.011	0.0200
Air	6.0	1580	7.0	0.50	0.59	2.4	NI

Source: ASG, environment sector review 1997 (provider of logistics and transport, a/o. active in Ukraine)

NI= No Information

**Table 11.6. : Emissions per Mode (1995)<sup>35</sup>**

Mode	CO		CmHn		NOx		C	
	T	%	T	%	T	%	t	%
Road transport	1452477	96.7	273644	96.2	130125	73.6	10325	66.7
railways	33578	2.2	6998	2.46	16233	9.2	2735	17.7
sea & river	15453	1.1	3838	1.34	30429	17.2	2424	15.6
Total	1501508	100	284480	100	176787	100	15484	100

Mode	SO2		Pb	
	T	%	t	%
Road transport	10002	64	296	98.8
Railways	3578	22.9	2.8	0.9
sea and river	2039	13.1	0.7	0.3
Total:	15619	100	299.5	100

Source: Transport Academy

**11.15 Passenger Transport.** Car ownership is still low compared with Western European countries. In Central and Eastern Europe the number of passenger cars per one thousand persons was on average one third of that of Western Europe. In most of the situations, as in Kiev, this number did not decrease, although the economic circumstances worsened (actual use went down when the country suffered a shortage of fuel). Growth rates for passenger car fleets in Eastern Europe are among the highest in the world. In Ukraine the demand for motorized transport is likely to increase as incomes rise and markets are liberalized. The 6.2 million road vehicles were considered to be responsible for the following emissions presented in the next table.

**Table 11.7. Hazardous Substances' Emission by Road Vehicles in Ukraine**

Vehicle types	Emissions, tons					
	CO	CH	NOx	SO2	Pb	C
Trucks	614987.40	120349.46	76190.26	8519.65	108.75	10077.37
Buses	180500.62	35858.73	16722.38	1431.50	34.10	1442.65
Cars	668114.27	125662.60	46834.67	2272.19	156.95	660.23
Special	159034.32	29819.24	14721.08	1868.67	33.45	1101.55
Total:	1622636.61	311690.03	154468.40	14092.01	333.24	13282.05

Source: Transport Academy

**11.16 Urban Passenger Transport.** The situation of public passenger transport has been described in Chapter 7. The situation of Kiev is taken as an example. In Kiev public transport organized by municipal authorities is falling apart, ridership and market share are falling, no maintenance takes place, rolling stock is illegally sold, equipment is worn out. In Kiev only electric driven modes like metro and trolley-buses, are exclusively publicly owned. All the rest is a combination of a few privately owned companies or joint stock companies and public ownership, and fares are controlled. Taxi and private cars are widely used. The total emission in Ukraine of public transport per passenger km is relatively low compared to private passenger

<sup>35</sup> For rail does not include emission linked to energy production.

transport as only 2.8 billion passengers were carried by public transport in Ukraine compared to a total of passenger km estimated at 77.9 billion.

### **Transport of Dangerous Goods**

11.17 **The Problem.** Illegal dumping is a serious problem in Ukraine and transport and disposal occur without complying with the necessary safety and environmental requirements. This results from the lack of dangerous waste management and controls. Currently Ukraine has a stock of 40 million ton of hazardous waste of which 15 million ton is identified as "extremely hazardous" (excluding nuclear waste and pesticides). Reliable temporary storage, sites for processing dangerous goods, recycling facilities, special equipment for the transport of dangerous waste are very scarce. Production increases will raise this problem to unacceptable levels. Special licenses must be obtained to transport dangerous goods. Bureaucratic problems are common when transport takes place through 2 or more oblasts.

11.18 **Cost of Accidents.** Accidents involving dangerous goods can cause major economical and ecological damage. Recently a major accident near the border resulted in cleaning costs of US\$1 million. Many accidents happen both because of the poor equipment and poor road conditions.

11.19 **Legal Status.** With regard to transport of Dangerous Goods a variety of authorities have competencies: the Ministry of Environment, the Ministry of Transport, the Ministry of Health Care and the Ministry of Interior. Currently the main part of the legal framework consists of "instructions" ("paralegal documents"). However a draft law on the transport of Dangerous Goods has been send to Parliament. Ukraine is party to several international and European conventions with regard to the transborder movement of hazardous waste. The Law on the Transport of Dangerous Goods applies the principle that the producer of the Dangerous Goods is responsible (and liable) for disposal. Control and enforcement is performed by the Ministry of Interior Affairs. Control posts are set up for random checks.

### **Environment Impact Assessment**

11.20 **The Problem.** EIA is a relatively new instrument in Ukraine and fails to attract sufficient public involvement in project appraisal. The EIA is not really used as a tool to gain public support. Instead, agreements between the private sector and public authorities by-passing public opinion take place.

11.21 **The Process.** Ukrainian EIA consist in two steps: the EIA and the State ecological expertise. The EIA is the responsibility of the investor. The state ecological expertise is performed by the MOE. As a result of the two stages, a license must be issued. Before this, the investor is not legally allowed to start the project. In case of small projects, authorizations can be given by the local administration. Only after approval of the EIA, following the State ecological expertise, a license is issued. In real life, many works are started without this license.

11.22 **Legal Environment.** Ukraine is party to the Convention on Environmental Impact Assessment (EIA) in a Transboundary context. The Ukrainian law on EIA was approved in 1993. Ukrainian legislation is based upon the western approach to EIA. There are however two

differences: (i) the list of activities covered by the law, basically all investment projects; and (ii) the publication of the project and the public participation is regulated rather vaguely.

**11.23 Road Rehabilitation.** Projects to upkeep the main Ukrainian roads do not appear to have significant effects on the environment. The infrastructure and impacts linked to its the physical presence are already perceptible. Rehabilitation may even bring progress in terms of traffic safety, noise and air pollution, owing to the easier and safer traffic conditions (e.g. city by-passes). Important impacts are concentrated during the execution phase<sup>36</sup>, notably in the management of dangerous solid waste (containing hazardous poly-aromatic hydrocarbons) used for road rehabilitation.

## C. Recommendations

### General Recommendations

**11.24** Air pollution is potentially the most serious problem for Ukraine. The share of transport in the total emissions, as the consumer of 8% total energy use, is significant. Therefore, air pollution should be a priority for transport policy. Secondly, a modal shift, both for transport of freight and passengers, is taking place towards more transport by road. This trend should be monitored as to its environmental consequences. Transport of dangerous goods is important because of the direct risks for both human health and the environment. EIA is an important mechanism to control the environmental consequences of necessary construction and rehabilitation projects in Ukraine.

**11.25 Integration of Environment in Transport Decisions.** The development of a sustainable transport sector requires the integration of environmental considerations in transport policy decisions. Addressing environmental issues in formulating and implementing transport policy is beneficial for both ecology and economy. It stimulates energy efficiency and reduce impact costs (health, productivity, environmental quality). The cooperation between the MOT and the Ministry of Environment should be improved by ensuring that a senior staff member in each department of the MOT will have the responsibility for matters related to the environment (at least one person for each mode). The system of information gathering and the publication of statistics should be improved. Each of the existing and new instruments (licenses, fees, etc.) should be reviewed as to their application in practice. Public participation and transparency in the process of issuing licenses should prevent attempts to undercut existing safeguards. Regulations should be clear and records of decisions made should be kept.

### Specific Recommendations

**11.26 Fuel.** In the decentralized market system for the import, production, supply and distribution of petroleum products, the Government will have to ensure by certification that the

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<sup>36</sup> The national road network study (TACIS, May 1996) mentions: earth sliding, water and soil pollution, noise, landscape disturbance, traffic dislocation, unjustified tree felling of excessive use of agricultural land, loss of topsoil, deterioration of archaeological sites, needs for new borrow or stockpile sites, needs for additional material from river gravel extractions or quarries.

quality of fuel is in accordance with national standards, notably in its effort to (a) phase out lead: and (b) decrease the level of sulfur in diesel and high octane levels. The use of high quality fuel should be encouraged by means of economic incentives. Phasing out leaded and sulfur laden fuel without financial incentives would appear to be impossible.

11.27 Fuel smuggling has both negative consequences for the environment (the user does not pay for the pollution created) and for the state finances. Theoretically if the minimum excise level (which are due to rise in the near future) of the EU would be applied, i.e., diesel: 245 ECU/ton, leaded fuel: 337 ECU/ ton, and unleaded fuel: 287 ECU/ton, excise income should be 1892 million ECU<sup>37</sup> in the Ukraine. Currently excise income from light fuels amounts to 5-8% of this figure. The tax levels applied in the EU illustrate the tax advantage for unleaded fuel. The tax advantage of low octane fuel, as currently applied in Ukraine, gives the wrong incentive.

11.28 **Technical Control of Vehicles.** A separation needs to take place between norms applicable to the existing and new vehicle fleet. For the existing vehicle fleet activities should concentrate on the encouragement of better and improved maintenance of the vehicles. New vehicles should apply to the highest -norms set by the EU. Imported 2<sup>nd</sup> hand vehicles should apply to the "EURO I" standards for trucks and "phase 1" standards for private vehicles. Gradual abolishment of the FSU standards is recommended. A clear distinction should be made between type-approval (norms addressed to the manufactures) and norms for roadworthiness (addressed to the owner of the vehicle). As a basis of roadworthiness testing, application of EC directive 96/96 is recommended following certification by an independent body of control centers. Legislation in place should be enforced.

11.29 **Inspection and Maintenance Program.** An inspection and maintenance program is needed to identify vehicles in which maladjustments or other mechanical problems cause high emissions, and discourage tampering with emission control equipment. Hydrocarbon and carbon monoxide emissions from a properly adjusted and maintained engine may be as low as one fourth of those of a poorly adjusted one. Private and publicly owned vehicles should comply with the same standards and procedures. A comprehensive inspection and maintenance program in Ukraine requires the following major elements:

- A suitable test procedure, supplemented by inspection of emission control systems where necessary.
- Effective enforcement of vehicle compliance (e.g. through vehicle registration)
- Adequate attention to repair procedures and training of mechanics
- Routine quality control
- Enforcement of program requirements for inspectors and mechanics, through means such as undercover vehicles containing known defects
- Periodic evaluation and review to identify problem areas and develop solutions
- Comprehensive vehicle model year coverage that including older vehicles
- Minimization of repair cost waivers and other waivers and exemptions

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<sup>37</sup> See table in paragraph on air pollution for figures on fuel consumption  $4285941 * 0.8 * 287$  ECU (80% unleaded fuel)= 984 mln;  $4285941 * 0.2 * 337$  ECU (20% leaded fuel) = 289 mln;  $2526875 * 245$  (diesel)= 619 mln; = total 1892 mln ECU (without income from gaz-consumption).

11.30 These requirements call for a properly designed program that is well funded, politically supported, and staffed with technically competent personnel. In most cases, it has proven difficult to sustain these elements over the long term, resulting in less effective programs.

11.31 **Modal Shift Freight.** Only a substantial increase in the competitiveness of the rail and river transport will enable a more environmentally favorable modal split for the transport of goods over distances beyond 200 km, although the impact of port and channel development should be closely monitored. Limiting environmental impact of rail transport requires better energy efficiency and improvement of its rolling stock (especially with regard to the transport of dangerous goods). The price of diesel should be increased to reflect environmental costs in addition to road user charges.

11.32 **Efficiency and Effectiveness in Passenger Transport.** The development of public transport services should be promoted by allowing a stronger participation of the private sector (Chapter VI). The authority should concentrate on improvement of the services in the electrified transport: trolley-buses, metro and tram. After improvements to the legal framework for further organization of public transport, special projects should be dedicated to its revitalization, both by private and publicly owned operators.

11.33 **City Planning to Discourage Private Car Usage.** The very rapid car growth and a severe shortage of funds for public transport creates some real problem for Ukrainian cities. The use of the private vehicle should be discouraged if environmental conditions deteriorate as a result of congestion. Some options to limit car use within the city are the following.

- Implement a restricted parking policy (e.g. few places near offices for which alternatives as metro/railway connections exist)
- Time-related tolls; drivers that travel during the morning rush hours on a number of congested routes would pay a toll. Those that choose alternative driving times or public transport would save.
- Limiting car access to the city center; car use may be limited by spatial designs favoring other modes.
- Traffic reduction zones which are freely accessible but not attractive for cars (e.g. because the organization and design of traffic favors other modes and public transport)
- Limited time car access zones where cars may come under restrictive conditions (e.g. certain hours)
- Car free zones where no cars are allowed

11.34 **Dangerous Goods.** The regulatory framework with regard to the transport of dangerous goods should set clear rules. Licenses should be issued by one Ministry, preferably the Ministry of Transport. Inter-ministerial co-operation should ensure that the views of the Ministry of Environment and the Ministry of Health are incorporated in the procedures. The other challenge is to create a recycling industry, including plants for final combustion and specialized transport operators. The government should maintain a database on traffic flows and accidents involving

dangerous goods, improving risk assessments and serving as a basis for improvement and control of strategies.

11.35 **EIA.** Within the current framework the coverage of projects following the regulatory framework is too large and the public participation insufficient. EIA should concentrate on large projects like the pipeline from Odessa to Brody. Public participation should be encouraged to contribute to inter ministerial decisions on significant projects. Strategic appraisal as a way of integrating environmental concerns in transport policy from the start is highly recommended. Assessments would not only take place for investment projects itself but also within the formulation of transport (and investment) policy. This should prevent that decisions on investments are taken primarily on political considerations, without bearing in mind the economic and ecological feasibility of the operation. In road construction, the use of material for construction and influence on the level of the groundwater must be monitored closely.

## 12. RECOMMENDATIONS

### A. Overview

12.1 The recommendations emerging from the previous chapters support and advance the structural change of the transport sector. There is an element of uncertainty as to how the political relationships and the economic consequences of these relationships within Ukraine, and the economic activities of surrounding countries may eventually evolve. All recommendations in the present report and summarized in this chapter, are based on the complete reform scenario (see Chapter 4). The proposed program of reforms is expected to take place in three phases over 1999 to 2005 in each sub-sector. The level of economic activity assumes avoidance of a major crisis as a result of the timely introduction of further economic reforms. Trade with non-CIS countries, following the development of new trade and economic channels, is likely to increase substantially. Trade with CIS countries may continue to be dominant, albeit the pace at which this trade with traditional markets may recover, remains uncertain.

12.2 The gradual reform process is proposed over a period of six years. This may appear as a tight schedule. The reform process itself may be seen as the efforts necessary to realize significant savings equivalent to 10 percent of the Ukrainian GDP (see Part G) and, to the extent that this is recognized, it would become a matter of national interest to actively pursue these reforms. The actual rate of implementation will reflect the degree to which a national consensus is attained.

12.3 The chapter begins by setting out the basic transport development strategy as described in Chapter 3 and follows with recommendations cutting across the sector, i.e., policy, transport and trade facilitation, and the sub-sectors.

### Transport Strategy

12.4 The objective of the transport development strategy for Ukraine is to ensure that transport reflects the notional adjustment process and thus avoids becoming a bottleneck to economic development. Its elements can be grouped according to four basic orientations as follows:

- (a) Make the most effective use of existing capacity in the sector.
- (b) Move towards full cost recovery while reducing unit costs.
- (c) Reduce costs to trade.
- (d) Accelerate privatization of the transport sector.

12.5 Reliance on export development while adjusting to external shocks by means of increases in productivity and efficiency is at the core of the economic recovery program. The potential contribution of transport to this process is significant since it will affect competitiveness of exports, help reduce energy intensity of the sector, and reverse the process of de-capitalization and

dependence on Government transfers, which are no longer feasible. In all cases, valid Government options in the transport sector would only be those demonstrably contributing towards these strategic goals.

## B. Sector Adjustment

12.6 In a scenario of continued economic reform and opening of the economy at a moderate pace (*complete-reform* scenario), the elements of the strategy responding to the needs of the sector to reform and adjustment are numerous. They are presented below as pertaining to: (a) policy reform; (b) trade and transport facilitation; and (c) sub-sector recommendations.

### Policy Reform

12.7 **Pricing.** Pricing for transport services needs to be determined by the market. This implies a removal of administrative controls and *privileged* or reduced fare passenger transport requirements, and adherence to a cost recovery policy. Although the stated Government policy indicates that the transport industry is to be run on a commercial basis, with freedom to adjust tariffs as necessary, in practice there is discriminatory pricing, cross subsidies, and absence of cost recovery. Coupled with low productivity made worse by the drop in economic activity, the net worth of transport enterprises has decreased.

12.8 **Institutional Restructuring.** The role of Government within the proposed development strategy will be to implement the legal and institutional reforms necessary to: deregulate, liberalize and accelerate the privatization of the sector; revise and adjust policies to sustain the process; assure full cost recovery; guarantee internal mobilization of resources; and provide incentives to the private sector while reducing the Government's own direct participation.

12.9 The role of all transport agencies and enterprises within the strategy is to promote private-sector participation. They should focus on the following issues: expanding the physical reach of the sector; seeking technological innovation; improving managerial performance; and seeking investments and finance from private-sector resources, both national and foreign. Under this new role for the State, its main concerns would be to: a) assure transparency in markets for goods and services; b) allow price flexibility as a response to market signals; c) ensure freedom of entry and exit from markets; and d) eliminate existing restraints to the participation of the private sector.

12.10 The role of the donor community is to provide a coordinated flow of financial assistance; convey consistent policy advice; assist in policy formulation, implementation and review; make available finance for technical assistance and project preparation; and supervise project implementation and execution.

12.11 The regulatory and policy making functions over all transport sub-sectors should be consolidated within the Ministry of Transport. These would include: a) indicative overall and coordination planning; b) collection and dissemination of sector statistics on traffic, tariffs, investments, fixed assets, fleets, and stocks; c) provision as requested of authorizations and licenses; and d) monitoring of compliance with safety and environmental standards. All road transport operational responsibilities under the Ministry of Transport (MOT) should be transferred

to the private sector, and in the case of railways and air transport, transformed into truly independent, commercially oriented entities.

12.12 For example, the Roads Department of MOT should continue the process of putting both road construction and maintenance on a contractual basis with private companies, while focusing on developing its role as supervisor, regulator, and policy maker in the road construction industry. The remaining construction and maintenance companies currently under the Roads Department should be privatized and all works awarded by competitive bidding.

12.13 **Deregulation and Liberalization of Markets.** To be successful, price flexibility needs to be accompanied by "transparency", i.e. equal and fair access to opportunities and information<sup>38</sup>, and freedom of entry and exit<sup>39</sup>. The aim of deregulation and liberalization of markets is to achieve these objectives. This in turn will contribute to the creation of an enabling environment to private economic activity in the sector and will accelerate the adaptation of transport to a changing economic environment.

12.14 An enabling environment, *which does not include guarantees or assurances of profitability*, is dependent on elements of the economic reform program such as: a) open, deregulated capital markets; b) continued availability of foreign exchange at or close to its opportunity cost; c) non-confiscatory tax systems; d) clear property rights under the law; e) no distinction between "national" and "foreign" private sectors vis-a-vis relevant legislation; and f) the perception by economic agents of a commitment to implement and uphold these elements on the part of the Government. This will create the perception of fairness, openness and freedom from intervention.

12.15 A freer transport sector will actually nurture and encourage entrepreneurial activity in other sectors. Small enterprises will be launched, and significant amounts of labor will be absorbed. The main areas of expansion and growth will be trucking and bus transport, freight forwarding, river transport, transit, regional aviation and to a lesser extent railways.

12.16 **Privatization.** Acceleration of the implementation of the program to privatize road and bridge construction and maintenance enterprises is recommended. Such a program would reduce overhead and unit costs and improve the quality of rehabilitation and maintenance of roads. In the initial stages of privatization, the formation of joint ventures with foreign companies and the continued encouragement of equipment leasing arrangements from private road construction equipment pools to private contractors should be considered.

12.17 Road transport services should be privatized as well. Current strictures to entry in international services needs urgent reconsideration, and any remaining State fleets of road vehicles

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<sup>38</sup> It implies the following: simplification of applicable commercial legal codes; contracting and procurement according to well known rules accessible to all parties; public bidding and notices of intent to procure required for all expenditures; and public appeal mechanisms to ensure that applicable rules are respected.

<sup>39</sup> This implies that: permits, licenses, selection of routes and determination of levels of service need to be free of Government intervention, other than actions necessary to enforce safety and environmental standards. Authorization to operate within the sector would become a right of those interested in doing so. In return, operators in the sector would be obligated to provide relevant operational data and information to the State. The only exception to this policy would relate to limited Government regulations that would be required in the allocation of urban transport bus routes.

would be transferred to the private sector. Lack of progress has been due to resistance to liquidate insolvent operations: a significant portion of the truck fleet in the agriculture sector is idle. Assets should be auctioned off to small entrepreneurs to increase competition in the industry. International transport would be more competitive and efficient if the existing concentration of fleets were broken up.

**12.18 Commercialization.** Transport entities that are not privatized outright should operate on a commercial basis. Their operations should be financially sustainable and cost recovery should be sufficient for maintenance, renewals, and all direct expenses. They should operate as independent concerns free from interference from the Government beyond the technical oversight of regulatory agencies. This would be the case of air transport and the railways.

**12.19 Financial Restructuring.** The commercial operations of publicly owned transport entities with excess capacity and staff will make the financial restructuring of these entities unavoidable. Downsizing, liquidation of unnecessary assets, divestiture of non transport assets and operations, revaluation of assets, repayment of arrears with offsetting mechanisms and definition of development plans compatible with the entities' own investment capacity should be addressed as a matter of urgency. Table 12.1 below summarizes the actions recommended in preceding chapters. *The restructuring proposed is geared to obtaining cost recovery, increasing productivity, covering renewals and debt service, and gradual modernization of the sector.*

**12.20 Expected Effects of the Policy Reforms.** The implications of the recommended policy reforms on the overall financial situation of the sector are significant. Figure 12.1 below and Tables 12.1 a, b and c of the Statistical Appendix compare the evolution of the transport sector's gross economic surplus<sup>40</sup> under the three scenarios presented in Chapter 4 (*status quo, gradual reform and complete reform scenarios*).

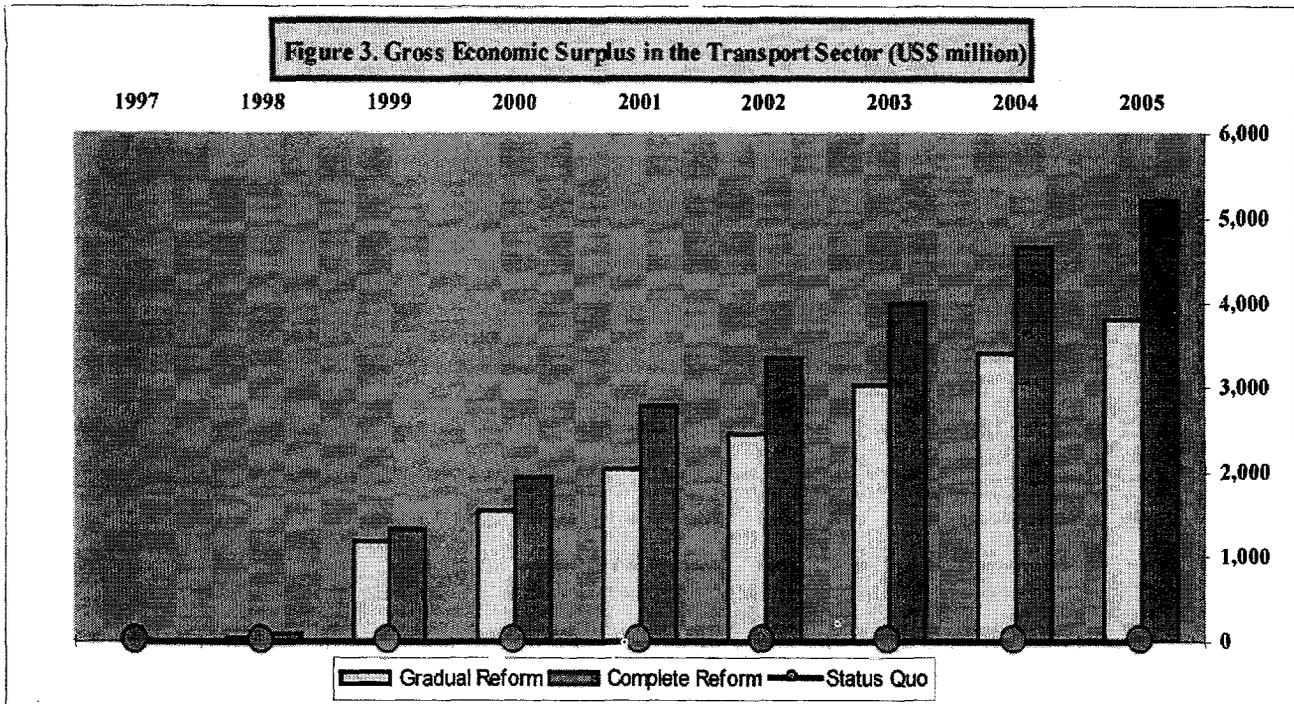
**12.21** To facilitate comparisons, gross economic surplus projections assume that, for all three scenarios, each transport sub-sector is constrained by the same requirements of an adjustment program (including asset revaluation to realistic levels, adequate provisioning of depreciation and maintenance, salary increases and minimal renewals and moderate investments to stop asset erosion and remove key transport bottlenecks) with an effective budget constraint. Sub-sector responses to these external constraints vary according to each scenario.

**12.22** Under the *status quo* scenario, where no adequate strategy would challenge the adjustment constraints, the transport sector and trade would experience losses and de-capitalization amounting to more than US\$5.0 billion<sup>41</sup> per year by 2005. Current operating losses from the public transport operators already exceed US\$1.8 billion/year. By contrast, the successful implementation of the policy of reforms and transport sector adjustment as suggested in this report would generate an increase in gross economic surplus, compared to the status quo scenario, of about US\$4 billion per year after 2005 under the *gradual-reform* scenario, and in excess of US\$5 billion/year under the *complete-reform* scenario. These surpluses would occur after renewals and moderate investments in the sector have been reestablished.

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<sup>40</sup> Defined in this case as the sum of projected gross profits, under each scenario, of all the transport sub-sectors which are likely to remain State-owned in the short-term. Trucking and bus transport would be operated by the private sector. It also includes the impact of road infrastructure cash-flows and of trade facilitation gains.

<sup>41</sup> Consisting in 2005 of (see Annex 12) operating losses from public operators US\$2.0 billion, economic excess cost borne by transport users of US\$2.6 billion and US\$500 million borne by the economy due to road safety.



12.23 Gross economic surplus estimates shown in Figure 12.1 do not include the effect of road operating cost savings, trade and welfare gains from trade facilitation measures, and potential gains from transit corridor development. The actual impact of concerted and simultaneous actions affecting both the traffic and the supply side of the sector would exceed 10% of GDP at 1997 levels.

12.24 The implementation of these reforms would not have a negative impact on the Government budget. The cost of reform is imbedded in each of the sub-sector projections summarized in Fig. 3 above, which shows that economies to be realized would substantially exceed these costs. A large part of technical services required could be financed by available grants in support of governmental reform strategies from various donors, and would address the issues revealed in this transport sector review. The introduction of cost recovery measures would improve the overall financial situation of the sector and enable much larger investment capacity (Volume III, Annex 8.2.9, 9.2.9, 10.2.9) in spite of the cost of increased salaries or severance.

**Table 12.1: Proposed Program of Structural Reform and Privatization of the Transport Sector****Note: Shaded areas represent reform items already underway and being adopted under the Structural Adjustment Program**

	Evolution of the government's Role	Evolution of the Legal and Regulatory Framework	Strengthening of Sector Institutions
<p>PHASE I</p> <p>Immediate Actions</p> <p>1999-2001</p>	<p><b>GENERAL MEASURES</b></p> <ul style="list-style-type: none"> <li>• Periodic adjustments to the foreign exchange rate, to reflect real depreciation of the local currency, and market liberalization; (l) and</li> <li>• Reform and simplification of custom duties. (l)</li> <li>• Simplification of import and export procedures (i)</li> </ul> <p><b>TRANSPORT SECTOR MEASURES</b></p> <ul style="list-style-type: none"> <li>• Formal announcement of the intent to move the sector towards a market economy; (p)</li> <li>• Restructuring of the Ministry of Transport (Chapter 5); (i)</li> <li>• Provide managers with training in transport restructuring; (i)</li> <li>• Public communication of a deficit elimination program in the sector, implementation of its first phase and adjustment of prices and tariffs; (i)</li> <li>• Preparation of bid documents for the divestiture of assets of enterprises in the sector; (i)and</li> <li>• Announcement and realization of studies to prepare measures under Phase II below. (p)</li> </ul>	<p><b>GENERAL MEASURES</b></p> <ul style="list-style-type: none"> <li>• Reform of taxation applicable to enterprises generally (l)</li> <li>• Simplification and revision of commercial legislation codes; (l)</li> <li>• Review and revision of legislation ruling foreign investments; (l)</li> <li>• Reform and review Banking legislation and liberalization of Banking services; (l)</li> <li>• Legislation on capital markets; (l) and</li> <li>• Announcement of the modifications under consideration for introduction in 2002-2003. (p)</li> </ul> <p><b>TRANSPORT SECTOR MEASURES</b></p> <ul style="list-style-type: none"> <li>• Reform of taxation applicable to sector enterprises. (l)</li> </ul>	<p><b>GENERAL MEASURES</b></p> <ul style="list-style-type: none"> <li>• Liberalization of markets for vocational training. (l)</li> </ul> <p><b>TRANSPORT SECTOR MEASURES</b></p> <ul style="list-style-type: none"> <li>• Determination of the personnel needs in downsizing the public administration related to the transport sector, (i)and</li> <li>• Determination of the market conditions under which qualified staff can be attracted and retained. (i)</li> </ul>
<p>PHASE II</p> <p>Structure Reform</p> <p>2002-2003</p>	<p><b>TRANSPORT SECTOR MEASURES</b></p> <ul style="list-style-type: none"> <li>• Continuation of the deficit elimination program; (c)</li> <li>• Announcement and publication of revised bidding and procurement procedures for the State; (l)</li> <li>• Call to bids for divestiture of assets by State enterprises in the sector; (i)</li> <li>• Publication of Environmental and Safety regulations for the sector; (l)</li> <li>• Reduction in employment in state enterprises in the sector; (p)</li> <li>• Completion of liberalization of tariffs and routes; (l) and</li> <li>• Sale of 50% of shares of state enterprises. (i)</li> </ul>	<p><b>GENERAL MEASURES</b></p> <ul style="list-style-type: none"> <li>• Legislation on contracting, bidding and procurement by the State; (l)and</li> <li>• Reform and restructure custom duties (l)</li> </ul> <p><b>TRANSPORT SECTOR MEASURES</b></p> <ul style="list-style-type: none"> <li>• Revocation of State's authority to set prices (l)</li> </ul>	<p><b>TRANSPORT SECTOR MEASURES</b></p> <ul style="list-style-type: none"> <li>• Introduction of investment appraisal for all investments having either public funds or benefiting from a public guarantee; (c)</li> <li>• Announcement of the cut-off economic rate of return for the financial year; (c) and</li> <li>• All enterprises in the sector operate in competitive environment. (p)</li> </ul>
<p>PHASE III</p> <p>Consolidating Actions</p> <p>2004-2005</p>	<p><b>TRANSPORT SECTOR MEASURES</b></p> <ul style="list-style-type: none"> <li>• Complete sale of share and asset divestiture in sector enterprises (i);</li> <li>• Completion of the deficit elimination program (c);</li> <li>• Publication or reporting obligations of sector enterprises; (p)</li> <li>• Reorganization of the public administration and Ministries related to the sector. (i)</li> </ul>	<p><b>TRANSPORT SECTOR MEASURES</b></p> <ul style="list-style-type: none"> <li>• Establishment of appeals mechanisms under the new legal and regulatory framework. (l)</li> </ul>	<p><b>TRANSPORT SECTOR MEASURES</b></p> <ul style="list-style-type: none"> <li>• A program of personnel development for the reorganized public administration related to the sector; (p) and</li> <li>• A program of technological innovation to continue the reduction of public administration of the sector. (p)</li> </ul>

Letters in bracket define the preponderant element to address within each action : (p): policy action; (c) cost recovery action; (i) institutional decision; (l) legal action requiring parliament endorsement.

## C. Sub-Sector Recommendations

### Transport and Trade Facilitation

12.25 Several measures should be implemented in the first phase of reform. Main recommendations are as follows :

- a) **Improve Border Crossings.** It would require the implementation of a comprehensive custom reform to streamline and harmonize existing documents and procedures with international practice (Annex 6.1) and it would be accompanied by selective investments to remove bottlenecks at the border. This overall program would cost in the short term US\$22 million.
- b) **Provide Training in Logistic Management.** The program would include the establishment of training for Ukrainian agricultural logistics and transportation workers in Western Europe, as well as in Ukraine to make them familiar and conversant with conditions, procedures and techniques prevailing in market economies. It would be supplemented by long-term on-the-job training of qualified transportation personnel in transportation firms of Western Europe.
- c) **Facilitate Multimodal Transport.** A policy framework should be developed to foster the optimal integration of various modes and the development of multi-modal transport. The Convention on International Multi-modal Transport of Goods (1980), provides good guidelines for the creation of national legislation in this matter. The development of a network of privately operated terminals with open access to all companies should form part of this policy. A regional approach is necessary in the respect of the freight terminals (par.6.23 ).
- d) **International Insurance.** Two main measures should be implemented : (i) liberalize Insurance Laws; and (ii) regulate and consolidate Ukrainian Insurance Companies (par.6.27).
- e) **Adhere to Free Trade Agreements.** Ukraine needs to ensure its rapid international integration. Negotiations for a Baltic Sea cooperation agreement and the establishment of a customs union with Moldova should be accelerated. Ukraine intends to become a full member of the Central European Free Trade Agreement (CEFTA), which is predicated on Ukraine first becoming a member of the World Trade Organization. Efforts towards accession to these bodies should be supported (par.6.37).
- f) **Improve Payment Procedures.** Several measures listed in par.6.38 would develop the instruments and mechanisms to effect payments in Ukraine. All these mechanisms are found in well functioning markets and are part of an enabling environment for business activities.
- g) **Use Transport Corridors to their Full Potential.** This would require the development of a transit strategy, and the enactment of a law on Special/Free Economic Zones. A masterplan and marketing plan should be prepared accordingly (par.6.43).

## Sub-Sector Recommendations

12.26 The elements of reform for each sub-sector are summarized in Table 12.2. They fall in two categories: triggers and actions. Triggers correspond to elements of reform that could be implemented by the Government prior to any external financial support. Actions refer to reform items over a longer term, and may require external technical and financial assistance as a follow up to the Governmental decisions to reform the sector. Annex 2 outlines the major recommendations for the development of an environmentally sustainable transport sector. Paragraph numbers in bracket refer to the expanded description of these elements in the preceding chapters.

### Environmentally Sustainable Transport

12.27 Main recommendations pertaining to the development of an environmentally sustainable development of transport are as follows :

- Integration of Environment in Transport Decisions. (par.11.25)
- Improvement of Fuel Quality (par.11.27)
- Improvement of Technical Control of Vehicles (par. 11.28)
- Facilitate river transport (par. 11.31)
- Encourage use of public transportation (par. 11.33)
- Secure the transport of dangerous goods (par. 11.34)
- Develop the use of Environmental Impact Assessments (par.11.35)

12.28 **External Support.** The World Bank's future involvement would be in support of Ukraine's attempts at sustaining the progress already accomplished by determinedly implementing needed reforms. In light of a looming financial crisis, the implementation of a reform program aiming at fiscal and macroeconomic stabilization is essential. The successful implementation of fiscal reform, under discussion with the IMF, would be the triggering element to the World Bank active support, notably for adjustment loans in the financial, coal and agricultural sectors or for enterprise development. Further adjustment support would depend on real progress under a strong program of structural reform in the public sector, as well as in the energy, agricultural and social sectors. Investment operations, which are relatively isolated from the effects of the current fiscal tensions, and whose benefit would likely survive even an outright fiscal crisis, will continue to be processed.

Table 2: Proposed Program of Sub-Sector Triggers and Actions

Sub-Sector	Railways (8.29)	Road Infrastructure	Air Sector (10.28 to 31)	River Shipping and Ports
Triggers	<p><b>Phase I</b></p> <ul style="list-style-type: none"> <li>Carry out an audit of UZ and regional railways operations and assets (c)</li> <li>Separate on an accounting basis freight, long distance and commuter operations (p)</li> <li>Define a labor rightsizing program (p)</li> </ul> <p><b>Phase II</b></p> <ul style="list-style-type: none"> <li>Eliminate cross subsidies (c)</li> </ul> <p><b>Phase III</b></p> <ul style="list-style-type: none"> <li>Establish total tariff freedom (l)</li> </ul>	<p><b>Phase I</b></p> <ul style="list-style-type: none"> <li>Adopt a law on road user charges (7.18 &amp; 7.19) (l)</li> <li>Establish a Road Fund entity (7.20) (l)</li> <li>Introduce international competitive bidding for periodic maintenance (7.22) (p)</li> <li>Complete privatization of road construction and maintenance entities (7.22) (i)</li> </ul>	<p><b>Phase I</b></p> <ul style="list-style-type: none"> <li>Finalize institutional framework and economic regulations (i)</li> <li>Review Tax System (l)</li> <li>Separate fully airports and airlines (i)</li> </ul>	<p><b>Phase I</b></p> <ul style="list-style-type: none"> <li>Remove operational functions from MOT(l)</li> <li>Open Dnieper river transport to competition (local and foreign) (9.20) (l)</li> <li>Establish river port dues (9.19) (c)</li> <li>Reduce port property tax rates (l)</li> <li>End the railway monopoly for container terminal operation in Kiev(9.20) (l)</li> <li>Privatize Ukrechput dredging fleet (9.18)</li> <li>Contract out dredging (9.18) (i)</li> </ul>
Actions	<p><b>Phase I</b></p> <ul style="list-style-type: none"> <li>Phase out all bartering transaction (p)</li> <li>Rationalize railway assets (c)</li> <li>Outsource ancillary activities (i)</li> <li>Adjust tariffs to cost recovery levels (c)</li> <li>Attract new traffic (i)</li> <li>Develop better decision tools (i)</li> <li>Prepare next phase (i)</li> </ul> <p><b>Phase II</b></p> <ul style="list-style-type: none"> <li>Reorganize Core Activities and divest from ancillary activities (i)</li> <li>Prepare a Corporatization/Privatization strategy for freight operations (i)-</li> <li>Implement a Labor rightsizing program (i)</li> </ul> <p><b>Phase III</b></p> <ul style="list-style-type: none"> <li>Corporatize Freight Operations (i)</li> <li>Implement a Pilot Privatization (i)</li> </ul>	<p><b>Phase I to III</b></p> <ul style="list-style-type: none"> <li>Review technical standards and construction practices (7.22) (p)</li> <li>Maintain the core road network (c)</li> <li>Establish a Pavement Management System (7.21) (i)</li> <li>Launch a Road Safety Improvement Program (7.23) (i)</li> <li>Phase out leaded gasoline/ reduce sulphur content in diesel</li> <li>Introduce a vehicle inspection system</li> <li>Promote investment to encourage public transport use</li> </ul>	<p><b>Phase I</b></p> <ul style="list-style-type: none"> <li>Prepare an Airport Development Strategy (p)</li> <li>Corporatize and Privatize airports by means of Concession (i)</li> <li>Liberalize Cargo Handling Operations (i)</li> <li>Elaborate an airline strategy for Air Ukraine based on its rightsizing (10.14) (p)</li> </ul>	<p><b>Phase II</b></p> <ul style="list-style-type: none"> <li>Dredge the rocky river bed between Dneprodzerjinsk and Dnepropetrovsk (9.21) (c)</li> <li>Modernize cargo handling equipment through leasing (9.18) (c)</li> <li>Prepare and implement within the next five year a cost recovery program for river maintenance (9.18) (c)</li> </ul>
	<b>Seaports (par.9.40)</b>	<b>Road Transport</b>	<b>Maritime Transport</b>	<b>Urban Transport</b>
Triggers	<p><b>Phases I &amp; II</b></p> <ul style="list-style-type: none"> <li>Review the port legal framework (l)</li> <li>Provide a social framework for restructuring (i)</li> </ul>	<p><b>Phase I</b></p> <ul style="list-style-type: none"> <li>Ensure freedom of entry (7.28) (l)</li> <li>Audit State vehicles (7.32)</li> <li>Review Resolutions 1346 and 261 (7.31&amp;7.33) (l)</li> </ul>	<p><b>Phase I</b></p> <ul style="list-style-type: none"> <li>Change in Government intervention (9.51) (l)</li> </ul>	<p><b>Phases I &amp; II</b></p> <ul style="list-style-type: none"> <li>Adjust tariff to cost recovery levels (c)</li> <li>Abolish the privilege fare system (l)</li> </ul>
Actions	<p><b>Phases I to III</b></p> <ul style="list-style-type: none"> <li>Reorganize Core Activities (i)</li> <li>Corporatize and Privatize Ports (i)</li> <li>Reassess new Yuhzni oil terminal need (c)</li> </ul>	<p><b>Phases I to III</b></p> <ul style="list-style-type: none"> <li>Provide driver training and information (7.34) (p)</li> <li>Review Road Regulations (7.29) (l)</li> </ul>	<p><b>Phases I &amp; II</b></p> <ul style="list-style-type: none"> <li>Privatization of Shipping Lines (9.53) (i)</li> <li>Freedom of Shipping Companies (9.52) (l)</li> </ul>	<p><b>Phases I to III</b></p> <ul style="list-style-type: none"> <li>Facilitate private operations (7.42) (i)</li> <li>Improve public operations (7.41) (i)</li> <li>Replicate know how transfer (USAID project) (7.43) (i)</li> </ul>

Letters in bracket define the preponderant element to address within each action : (p): policy action; (c) cost recovery action; (i) institutional decision; (l) legal action requiring parliament endorsement.

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