

CASE Network Reports

Azerbaijan Transport Sector 2011

Irina Tochitskaya

No. 107/2012



Warsaw Bishkek Kyiv Tbilisi Chisinau Minsk

The views and opinions expressed here reflect the authors' point of view and not necessarily those of CASE Network.

This publication has been prepared under the project on “Advisory Services on Macroeconomic Management and Institutional Reform (ASMMIR)” for the Ministry of Economic Development of Azerbaijan. The project is being conducted by CASE on the basis of Grant Agreement G-08-BPCS-162136 signed between the British Petroleum Exploration (Caspian Sea) Ltd. and CASE.

The publication has been co-financed from the funding received from PEKAO S.A.



Keywords: Transportation analysis, Transition economies, Reform

JEL codes: L91, L92, L93, R4, O18, P21

© CASE – Center for Social and Economic Research, Warsaw, 2012

Graphic Design: Agnieszka Natalia Bury

EAN 9788371785597

Publisher:

CASE-Center for Social and Economic Research on behalf of CASE Network

12 Sienkiewicza, 00-010 Warsaw, Poland

tel.: (48 22) 622 66 27, fax: (48 22) 828 60 69

e-mail: case@case-research.eu

<http://www.case-research.eu>

The CASE Network is a group of economic and social research centers in Poland, Kyrgyzstan, Ukraine, Georgia, Moldova, and Belarus. Organizations in the network regularly conduct joint research and advisory projects. The research covers a wide spectrum of economic and social issues, including economic effects of the European integration process, economic relations between the EU and CIS, monetary policy and euro-accession, innovation and competitiveness, and labour markets and social policy. The network aims to increase the range and quality of economic research and information available to policy-makers and civil society, and takes an active role in on-going debates on how to meet the economic challenges facing the EU, post-transition countries and the global economy.

The CASE network consists of:

- CASE – Center for Social and Economic Research, Warsaw, est. 1991, www.case-research.eu
- CASE – Center for Social and Economic Research – Kyrgyzstan, est. 1998, www.case.elcat.kg
- Center for Social and Economic Research – CASE Ukraine, est. 1999, www.case-ukraine.kiev.ua
- CASE –Transcaucasus Center for Social and Economic Research, est. 2000, www.case-transcaucasus.org.ge
- Foundation for Social and Economic Research CASE Moldova, est. 2003, www.case.com.md
- CASE Belarus – Center for Social and Economic Research Belarus, est. 2007.
- Center for Social and Economic Research CASE Georgia, est. 2011

Contents

Abstract	10
1. Introduction	11
2. Review of the Transport Sector and Reforms Implemented in the Sector. 13	
2.1. Current developments in the transport sector in Azerbaijan.....	13
2.2. Railways	20
2.3. Road transport and roads	26
2.4. Civil Aviation and airports	33
2.5. Maritime transport and ports	38
3. Infrastructure Sectors Reforms in 2010-2011	42
3.1. General description of the transport sector reform indices.....	42
3.2. Explanations of the infrastructure reform indicator evaluation in 2010-2011	45
3.3. Reform areas.....	56
3.3.1. <i>Railways</i>	56
3.3.2. <i>Road transport and roads</i>	58
3.3.3. <i>Air transport and airports</i>	59
3.3.4. <i>Maritime transport and ports</i>	60

List of Figures and Tables

Table 1. The structure of cargo turnover in the transport sector	14
Table 2. The structure of cargo shipment by the transport sector (excl. pipelines)	15
Table 3. The structure of cargo turnover of the transport sector (excl. pipelines).	15
Table 4. Logistics Performance Index (LPI)	16
Table 5. The structure of passenger turnover for main types of transport.....	17
Table 6. Rates of growth of cargo turnover excl. pipelines (% yoy).....	18
Table 7. Infrastructure Reform Indices.....	54
Figure 1. The volume of cargo shipped by transport and non-transport sectors ...	14
Figure 2. Rates of cargo and passenger turnover growth	17
Figure 3. Growth of revenues and costs of cargo transportation (excl. pipelines)	18
Figure 4. Growth of revenues and costs of passenger transportation.....	19
Figure 5. The share of unprofitable companies and size of losses	19
Figure 6. The volume of cargo transported by rail.....	21
Figure 7. The volume of passengers transported by railway	22
Figure 8. Asset utilization (locomotives)	22
Figure 9. Asset utilization (passenger coaches).....	22
Figure 10. Asset utilization (wagons).....	23
Figure 11. Labor productivity.....	23
Figure 12. Rail traffic intensity	24
Figure 13. Financial performance of cargo transportation	24
Figure 14. Financial performance of passenger transportation	25
Figure 15. Revenues and costs per cargo turnover.....	25
Figure 16. Revenues and costs per passenger turnover	26
Figure 17. Growth in cargo transportation by road (%)	27
Figure 18. Growth in cargo turnover by road %.....	27
Figure 19. A share of companies and individuals in the total volume of cargo transported (%)	28
Figure 20. A share of companies and individuals in cargo turnover (%)	28
Figure 21. Growth in passenger turnover (%)	29
Figure 22. A share of companies and individuals in passenger turnover	29
Figure 23. Intensity of cargo and passenger transportation.....	30
Figure 24. Growth in revenues and costs in road transport	30
Figure 25. Growth in revenues and costs in cargo transportation	31
Figure 26. Growth of revenues and costs on passenger transportation	31

Figure 27. Profitability of road transportation	32
Figure 28. Volume of cargo transported, thousand tons, rate of growth (% yoy) .	33
Figure 29. Volume of the cargo turnover, million ton-km, rate of growth (% yoy) .	34
Figure 30. Volume of passengers transported, thousand people, growth rate (%, yoy)	35
Figure 31. Volume of passenger transportation (million passenger-km, growth rate (% yoy)	35
Figure 32. Intensity of cargo and passenger transportation	36
Figure 33. Labor productivity (based on comparable turnover per person)	36
Figure 34. Financial performance of the air transport (revenues – costs), thousand manats	37
Figure 35. Revenues and costs (manats per 1,000 ton-km)	37
Figure 36. Revenues and costs (manats per 1,000 passenger-km)	38
Figure 37. Volume of cargo export and cargo turnover in the maritime transport	39
Figure 38. Labor productivity in maritime transportation	40
Figure 39. The assets utilization in the maritime transport (million ton-km per one vessel)	41
Figure 40. Financial performance of the maritime transport (revenues – costs), thousand manats	41

Abbreviations

CJSC	Closed Joint-Stock Company
CPI	Consumer Price Index
EBRD	European Bank for Reconstruction and Development
OJSC	Open Joint-Stock Company
PPP	Public-Private Partnership

Weights, distance and other measures

Bn	billion
Eop	end of period
EUR	Euro
kWh	kilowatt hour
M	million
Tcm	thousand cubic meters
Trn	trillion
yoy	year-on-year
USD	United States Dollar

The author

Irina Tochitskaya has more than 20 years of research and management experience. Irina earned her Ph.D. Degree in Macroeconomics and M.Sc. Degree in Statistics. Her professional interests include trade policy, innovation and growth, energy sector development, enterprise development, applied econometrics. She began her career as a research fellow at the Institute of Economics of the National Academy of Sciences of Belarus. In 1996 she took the position of Chief Specialist at the Joint Stock Bank “Belarusbank”, Minsk, where she was responsible for investment, money – flow, operation – cost analysis. In 1999-2000 she was awarded the fellowship of the Kennan Institute of the Woodrow Wilson International Center for Scholars (Washington DC), then she spent five month as a Visiting Faculty at the Department of Economics at the Central European University (Budapest, Hungary). Since 2003 Irina has been working as a Deputy Director of the IPM Research Center (Minsk, Belarus). Currently she is an Academic Director of the IPM Research Center. She has experience in project management at national and international levels, and specifically she is the Director of the project German Economic Team in Belarus, supported by the Federal Ministry of Economics and Technology of Germany. As a Team Leader and Senior Expert she has participated in numerous projects supported by the European Commission, the Ministry of Economic Development and Trade of Russia, EERC. Irina has more than 40 scientific publications including one book and chapters in 3 books.

Abstract

The report evaluates progress achieved in implementation of structural reforms of the transport sector in Azerbaijan in the following subsectors: railways, road transport and roads, air transport and airports, maritime transport and ports. It presents standardized and qualitative indicators that assess the level of the transport sector reforms in three areas: 1) commercialization and privatization, 2) tariff policy, and 3) institutional and regulatory changes. The aggregated index is calculated on the basis of the 21 indicators that reflects the status of the reforms in each sector at a period under review.

1. Introduction

The transport sector plays an important role in the economy of Azerbaijan. It produces 6% of the added value and employs 8.1% of the active working population of the country. This sector accounts for 8% of all capital stock of the country and 24.6% of the total volume of investments. The country occupies an important geographical position in terms of transit routes, with transport corridors TRACECA and North-South going through its territory, as well as road and railway lines connecting the areas of the Black Sea and the Caspian Sea.

However, there have been some negative trends in recent years in the sector, in particular, a high proportion of unprofitable enterprises has increased even more (from 29.7% in 2007 to 37.8% in 2010), and the country has turned from a net exporter of transport services (USD 56 million in 2007) into a net importer of these services (USD -157 million in 2010). In 2007-2010, there was also a slowdown in the volume of transported cargo and passengers, and in the cargo and passenger turnovers, and a substantial depreciation of fixed assets continued. To improve performance of the transport sector in Azerbaijan and accelerate structural reforms we would like to recommend, among other things, its further commercialization and expansion of private sector participation.

The main objective of the Azerbaijan Transport Sector report is evaluating progress achieved in implementation of structural reforms in the following subsectors: railways, road transport and roads, air transport and airports, maritime transport and ports. The indicators used in the study can help to monitor reform changes in these subsectors. They can also be used for research purposes.

Our indices have been estimated following the approach of the European Bank for Reconstruction and Development (EBRD), and methodology developed by the Institute for Economic Research and Policy Consulting (IER) in Kyiv, Ukraine.¹ EBRD estimates infrastructure indices for all transition countries and publishes them in the annual Transition Reports. The indicators are standardized and based on qualitative expert assessment (on a scale of 1 to 4) covering three major areas: 1) commercialization and privatization, 2) tariff policy, and 3) institutional and regulatory changes. The aggregated index reflecting the level of the transport sector reforms is calculated on the basis of 21 detail indicators.

¹ See www.ier.kiev.ua.

The report is organized as follows: the next part provides a review of current developments in this sector. Part 3 describes the methodology applied, provides explanations to the indicators that reflects the status of the reforms, and studies progress of the reforms in each of the four subsectors of the transport sector, supplemented with quantitative estimates. This part also presents a summary table with indicators and aggregated indices.

2. Review of the Transport Sector and Reforms Implemented in the Sector

2.1. Current developments in the transport sector in Azerbaijan

Regulators

The transport sector in Azerbaijan is regulated by the Ministry of Transport responsible for the development and carrying out a single state policy for the railway, maritime and road transport, and also for the civil aviation and roads. The Ministry relies on the following regulatory documents in its work: the Law on Transport of the Republic of Azerbaijan, the Law on Vehicles, the Law on Aviation, the Law on Road Transport, the Law on Highways, and the Law on Traffic.

The Law on Transport of the Republic of Azerbaijan establishes legal, economic and organizational framework for the sector. In particular, both state-owned enterprises and private or municipal enterprises can function in the transport sector under this Law. However, it stipulates that a number of facilities can be held in state ownership only, namely, “the facilities being in the public domain and of national importance, including railways and their engineering structures and facilities, pipelines, lighthouses, facilities and navigation signs to regulate and ensure a safe movement of vessels and facilities, air navigation facilities and equipment of the air traffic management and control system, facilities to ensure the aircraft flight safety, engineering services and equipment related to air transportation, as well as the underground”.

The transport pricing policy is regulated by the Tariff Council of the Republic of Azerbaijan.

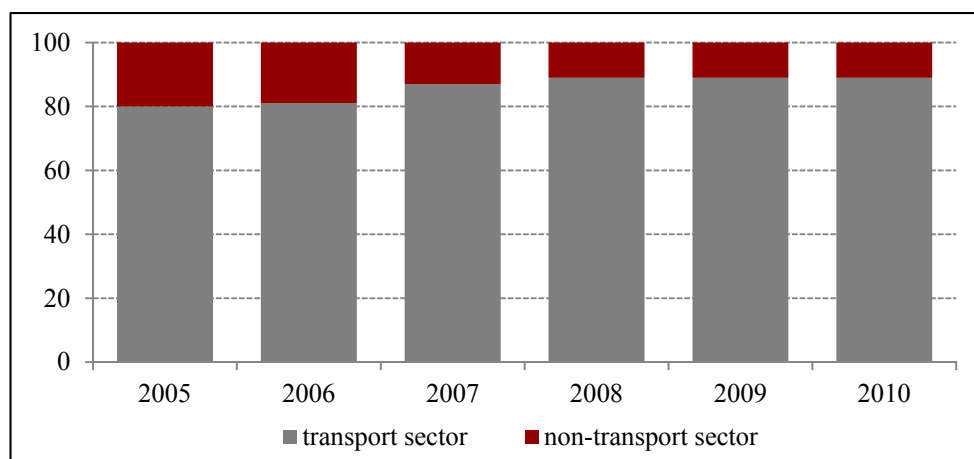
The structure and developments in the sector

The transport sector in Azerbaijan is one of the fastest growing industries, which makes a significant contribution to GDP growth, provides a flow of income from transit services, and promotes the development of domestic and foreign trade. It is characterized by an increase in the volume of services rendered and investments. As a positive trend, one can also note a decrease in the share of transporta-

tion services provided by non-transport organizations (Figure 1), which generally indicates a better performance of the transport sector, and, in particular, of the road transport, the share of which in the total volume of cargo transported increased from 80.8% to 86.1% over 2005-2010, and also splitting industrial transport companies from the industrial production.

Pipelines dominate in the structure of cargo turnover (Table 1), which corresponds to a high and further increasing share of the mining industry in the industrial production structure (it increased from 67.4% to 78.9% over 2005-2010). However, this structure of the economy sets, in its turn, certain restraints on the intensity of cargo transportation.

Figure 1. The volume of cargo shipped by transport and non-transport sectors



Source: State Statistics Committee of the Republic of Azerbaijan.

Table 1. The structure of cargo turnover in the transport sector

Subsector	2005	2006	2007	2008	2009	2010
Railways	36.3	25.5	13.3	11.3	7.8	8.5
Maritime	28.3	18.6	7.7	6.9	6.3	5.0
Air	1.2	0.7	0.3	0.1	0.1	0.1
Pipelines	5.8	36.2	67	70.5	74.9	74.8
incl. oil pipelines	2.4	33.9	65.2	66.3	70.2	70.6
gas pipelines	3.4	2.3	1.8	4.1	4.7	4.2
Road	28.4	19.0	11.7	11.2	10.9	11.6

Source: Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Given that pipeline transportation is a highly specialized and specific type of activity associated with the long-distance transfer of liquid and gaseous products, its regulation differs significantly from the approaches adopted for the universal means of transport. Therefore, it is appropriate to consider the structure of cargo shipment and cargo turnover excluding pipelines.

As indicated by the data presented in Tables 2 and 3, a decrease in the share of railways and maritime transport amid the growth of road transportation is observed both in the structure of cargo shipment and cargo turnover. Furthermore, the overwhelming volume of cargo is transported by road (74.5% in 2010), though, in terms of cargo turnover, railways yielded the palm to road transportation only in 2009-2010.

Table 2. The structure of cargo shipment by the transport sector (excl. pipelines)

Sector/subsector	2005	2006	2007	2008	2009	2010
Transport sector	100.0	100.0	100.0	100.0	100.0	100.0
Railways	24.2	25.6	23.5	21.5	16.2	16.7
Maritime	12.5	11.4	8.5	9.3	10.3	8.7
Air	0.1	0.1	0.0	0.0	0.0	0.0
Road	63.3	62.9	67.9	69.1	73.5	74.5

Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Table 3. The structure of cargo turnover of the transport sector (excl. pipelines)

Sector/subsector	2005	2006	2007	2008	2009	2010
Transport sector	100.0	100.0	100.0	100.0	100.0	100.0
Railways	40.1	40.0	40.4	38.3	31.0	33.6
Maritime	31.3	29.1	23.3	23.2	25.2	19.8
Air	1.3	1.1	0.8	0.5	0.4	0.6
Road	31.4	29.8	35.5	38.0	43.4	46.1

Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Such a situation can be explained by several factors. First, by a significantly shorter average transportation distance for the road transport compared to railways. Second, by the shift in preference towards the road transport compared to railways due to increase in domestic consumption (which corresponds to high rates of growth in goods turnover reaching 109% yoy in 2010) and investments (121.2% yoy in 2010), namely in construction, and, therefore, in transportation of

different types of products.² There is also increasing demand in respect to speed and flexibility of transportation, especially of perishable and high value goods. Third, it was influenced by the increased price competition. In general, the market share of cargo transportation (ton-km) by railways (33.6%) is high by international standards, and is far above the EU average, which is about 17%. Generally, increase in the share of road transport, both in the total volume of transported cargo and in the cargo turnover, should be seen as a positive trend, which coincides with the transition from bulk transportation of raw materials to transportation of general cargo.

Development of cargo transportation in Azerbaijan is restrained by insufficient development of logistics. In 2010, the country held 89th position among 155 countries by the Logistics Performance Index (LPI) as estimated by the World Bank. Compared to Turkey, Azerbaijan has a much lower index, though it is a bit higher in comparison with Iran and Georgia. However, when this index is broken into its components, Azerbaijan has the lowest indicator for customs performance (117th position in the world classification) and logistics competence (91st position in the world by performance of transport service operators and customs brokers) among the compared countries. Turkey and Iran have higher indicators for infrastructure development (i.e. development of roads, railways, ports, and applied information and communication technologies)³, cargo tracking and tracing (91st position in the world), and also for timeliness of their delivery (100th position in the world).

Table 4. Logistics Performance Index (LPI)

Country	Overall LPI	Customs	Infra-structure	International shipments	Logistics competence	Tracking and tracing	Timeliness
Turkey	3.22	2.82	3.08	3.15	3.23	3.09	3.94
Azerbaijan	2.64	2.14	2.23	3.05	2.48	2.65	3.15
Georgia	2.61	2.37	2.17	2.73	2.57	2.67	3.08
Iran	2.57	2.22	2.36	2.44	2.65	2.5	3.26

Source: www.worldbank.org/lpi.

However, Azerbaijan holds the second position among the countries compared and 55th position in the world classification for international shipments (i.e. ability to ship cargo at competitive prices), which indicates a significant potential for

² As a rule, carload transportation of coal, oil and oil products, ore, sand and agricultural products is considered most cost-effective railway transportation. In recent years, the railroads have expanded container transportation, but their share is much smaller than that of carload transportation.

³ Azerbaijan holds 104th position in world ranking of the quality of infrastructure.

development of international transit services supported by the adequate development of transport infrastructure and logistics.

Road transport dominates in the structure of passenger turnover, and its share is steadily increasing, which indicates a high price and geographical accessibility of this type of service. However, the share of the railways has decreased to 4.4%, which is much lower than, for example, the average EU indicator (7.4%).

Table 5. The structure of passenger turnover for main types of transport

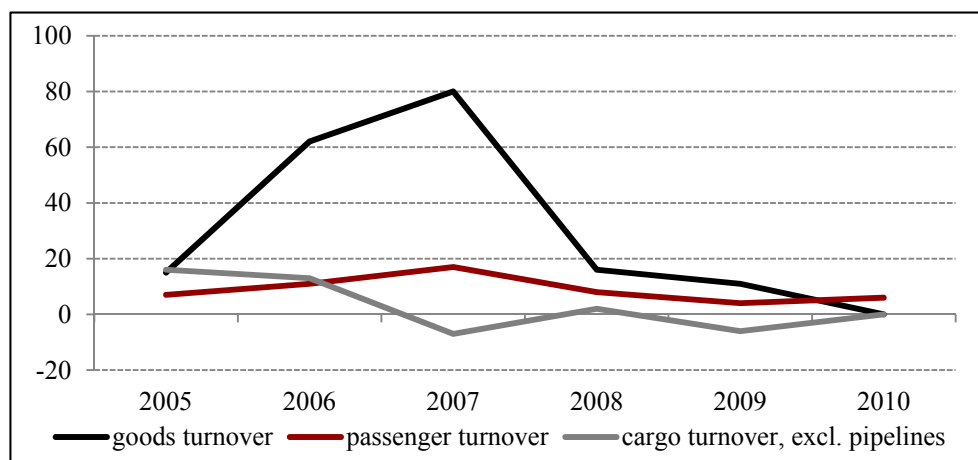
Subsector	2005	2006	2007	2008	2009	2010
Railways	6.00	6.00	6.30	5.50	5.20	4.40
Maritime	0.05	0.04	0.03	0.03	0.02	0.00
Air	10.80	10.60	11.30	10.50	7.50	7.70
Road	73.90	73.90	73.00	74.00	77.40	79.20

Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Difficulties

In recent years, there have been some negative trends observed in the transport sector of Azerbaijan. Firstly, there is a slowdown in cargo and passenger turnovers, with the latter partly due to the increased ratio of vehicles to population in the country (Figure 2).

Figure 2. Rates of cargo and passenger turnover growth



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

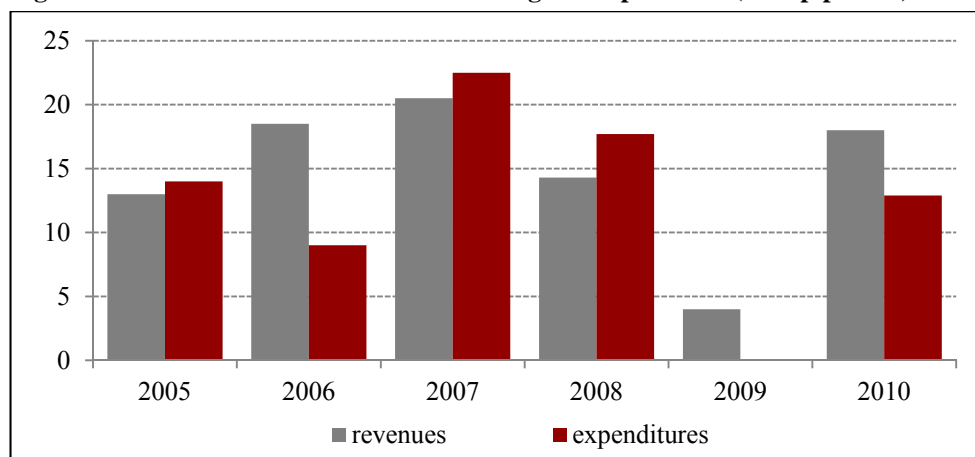
The analysis shows that growth rates of cargo turnover without pipeline transportation are unstable. For example, while in 2010 there was an increase in cargo turnover by rail and air transport, in 2007-2009 it was significantly reduced. Moreover, the growth in 2010 was due to the low base effect (i.e. very low levels in 2009) and, compared with 2008, the railway turnover declined by 17.7% yoy (while the turnover of goods in transit shipped through the transport corridor TRACECA increased in 2008 and 2010).

Table 6. Rates of growth of cargo turnover excl. pipelines (% yoy)

Sector/subsector	2005	2006	2007	2008	2009	2010
Transport sector	115.8	110.5	93.1	101.8	93.6	100.3
Railways	127.8	114.9	93.8	96.6	75.8	108.7
Maritime	110.8	106.9	74.5	101.5	101.6	78.7
Air	98.4	93.9	70.1	63.2	85.3	126.4
Road	108.2	109.1	111.1	108.9	106.9	106.5

Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 3. Growth of revenues and costs of cargo transportation (excl. pipelines)



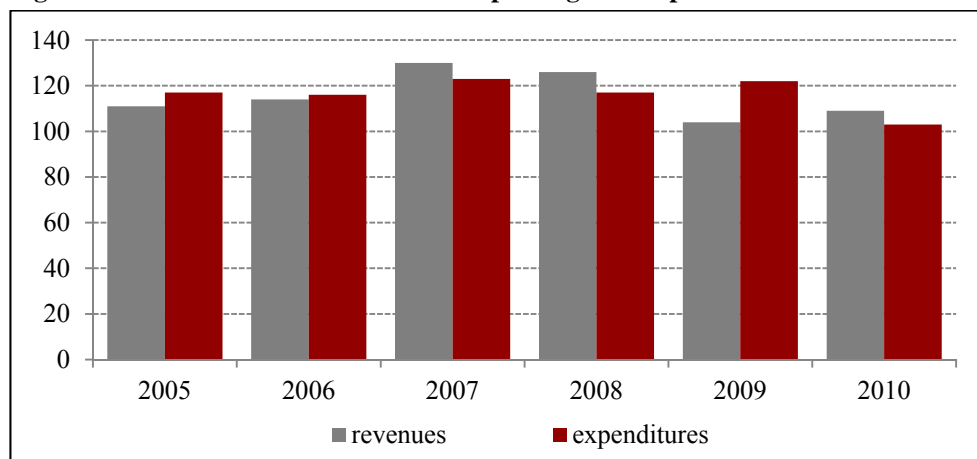
Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

At the same time, the growth of both cargo turnover and passenger turnover by road, though tended to decrease, still remained relatively high during the same period, reflecting the increasing competition from road carriers in the domestic market through, among other things, provision of flexible services.

Financial performance of the sector remained uneven. The unfavorable trend of faster growth of costs comparing to revenues observed in 2007-2008 was reversed in

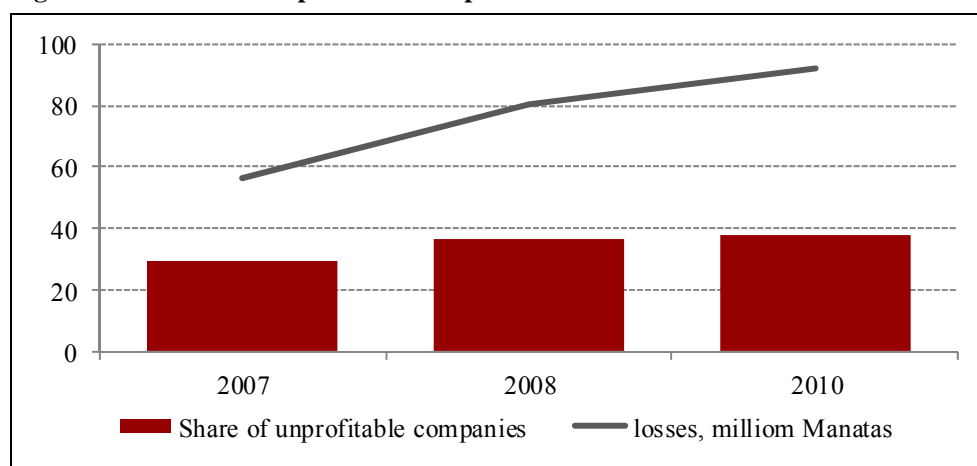
2010 due to increase in revenues generated by railway and road transportation fuelled by the recovery in the domestic demand after the 2009 crisis. However, growth of costs of cargo transportation by road was much higher than revenue growth.

Figure 4. Growth of revenues and costs of passenger transportation



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 5. The share of unprofitable companies and size of losses



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

The situation was unstable in terms of growth of revenues and costs of passenger transportation. While revenues grew faster than costs in the entire passenger transport sector in 2010 (Figure 4), which was mainly due to favorable situation in

the road transportation there was a decrease in both revenues and costs in railway passenger transportation, with the first declining faster than the latter (by 29.7% yoy, and 11.1% yoy correspondingly). In its turn, road transportation was characterized by a significant slowdown in the revenue growth.

This situation affected the financial performance of companies resulting in the increased share of unprofitable companies and size of losses (Figure 5).

To improve financial performance of cargo and passenger transportation one of the solutions continuation of market reforms initiated in this sector.

2.2. Railways

Regulators

The CJSC “Azerbaijan Railways” (“Azerbaijan Demir Yollari”), established in 2009 by the Presidential Decree, is the railways operator carrying both passengers and cargo. It owns the rail and infrastructure network. The CJSC “Azerbaijan Railways” includes “Nakhchivan Railways” Ltd., departments responsible for cargo and passenger transportation, the Department of Infrastructure, the Department of Railway Technical Equipment and Repair, as well as a number of production units (e.g., production associations “Locomotive”, “Vagonservis”, “Rail Management”, “Electricity Supply”, “Signal System and Communication”). Besides Azerbaijan Railways, the transportation operator rights are also granted to the companies “Middle East Petroleum” and “Azersun”, licensed to transport oil by rail and owning a freight rolling stock. A number of industrial enterprises also have railway sidings.

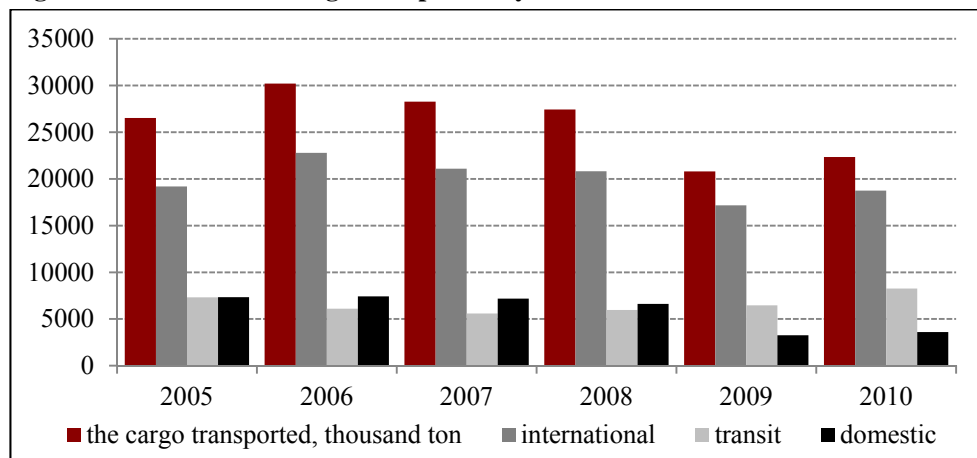
The State Program for the Railway Transport System Development for 2010-2014, adopted in Azerbaijan, provides for the reconstruction and modernization of railways and a signal system, and the purchase of a new rolling stock. The Program’s cost amounts to USD 1.2 billion. The main objectives of the Program include the growth of the country’s transit potential, increasing the railways service quality and ensuring efficient operation by reducing transport costs for passenger and cargo transportation.

Developments in the subsector

As shown in Figure 6, the period of 2005-2010 noted a decrease in both international and domestic cargo transportation. Given that the average distance of transportation has nearly remained the same, the same trend was observed in the

cargo turnover. The exception, both in the first and second cases, was transit cargo transportation, which experienced some growth.

Figure 6. The volume of cargo transported by rail



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

International transportation was the main type of transportation services provided by Azerbaijan railways, with its share steadily increasing. While the share of export and import traffic was 72.3% in 2005, where transit carriage was 27.6%, in 2010 the share of international transportation increased to 83.9%, and transit traffic reached 36.9% (with the volume of the transported transit cargo increased by 12.6% and the cargo turnover increased by 55.7% over 2005-2010). Accordingly, the share of domestic transportation significantly decreased and amounted to only 16.1% in 2010.

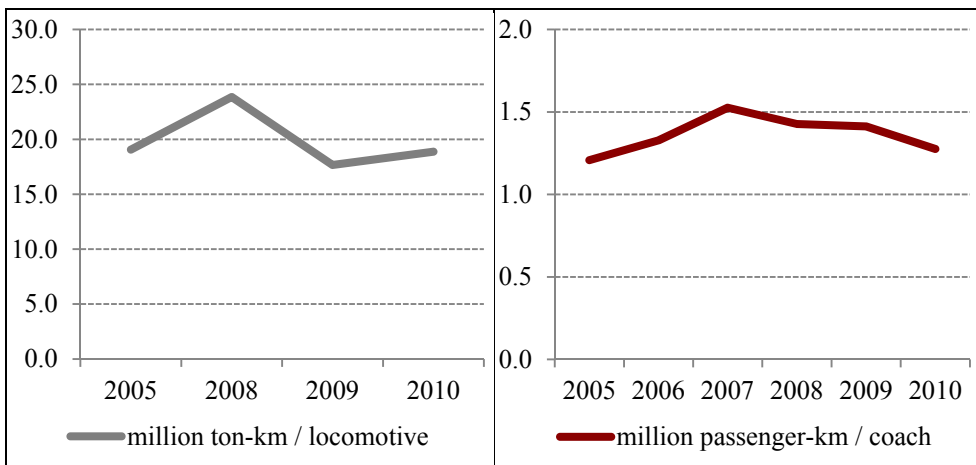
Since 2007, passenger rail transportation tended to decrease (Figure 7), primarily, due to a decrease in domestic transportation, which held the dominant share in the market (93.4% in 2010).

A decrease in the volume of transportation and cargo and passenger turnovers in Azerbaijan railways has been accompanied by a decrease in the rates of asset utilization. At the same time the rates of use of both passenger coaches and locomotives were rather low⁴, for example, they were significantly lower than in EC-27.

⁴ It should be noted that, according to the data of the Ministry of Transport, the service life of 278 locomotives has already expired.

Figure 7. The volume of passengers transported by railway

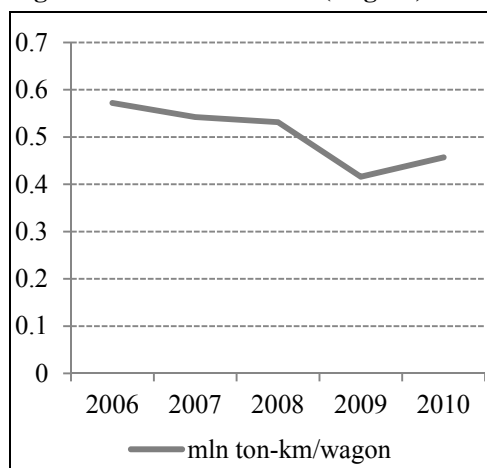
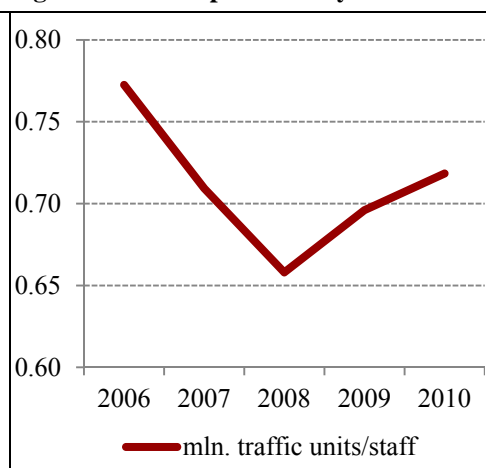
Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 8. Asset utilization (locomotives)**Figure 9. Asset utilization (passenger coaches)**

Source: estimates based on the data of the International Union of Railways.

The rates of use of wagons also tended to decrease, as well as labor productivity, calculated on the basis of the traffic units.⁵

⁵ To calculate labor productivity passenger-km were converted to ton-km by a factor of 2, which corresponds to the calculation of the labor to perform passenger and cargo transportation.

Figure 10. Asset utilization (wagons)**Figure 11. Labor productivity**

Source: estimates based on the data as provided in Azerbaijan Transport Statistical Year-book, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

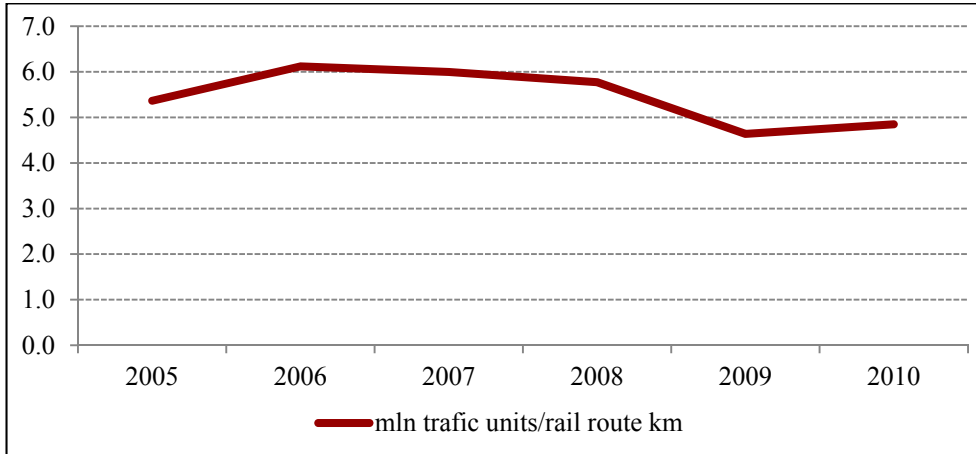
However, it should be noted that from 2009 the rates of assets utilization and labor productivity started to improve which, on one hand, was connected with the low base effect, i.e. low figures of the crisis year of 2009, and, on the other, with potential favorable effects of the reforming process initiated in the railways. In particular, the growth in labor productivity was due to optimization of rail employment, and a reduction in the average number of employees per 1 km of rail routes, which amounted to 6.7 in 2010. However, this figure is still very high by international standards; for example, in the EU it ranges from 5 in the Slovak Republic to 0.71 in Sweden.

Economic performance of railways depends, to a large extent, on such parameters as traffic intensity (Figure 12): the higher it is, the lower operation costs per one transportation unit are. Traffic intensity of Azerbaijan railways decreased and in 2010 it was 4.9 million traffic units per kilometer of rail route. Although this figure was above the average for EC-27 (3.6), which shows, in general, a fairly good operating performance of Azerbaijan railways, its reduction indicates growth of operating costs per traffic unit (given that railway transportation has a high proportion of fixed costs connected with railway infrastructure) and, thus, an increasing cost of railway transportation. In its turn, this means that railway transportation becomes more expensive than road transportation and it will lose to road transportation in an increasingly competitive environment. This underlines the need for reforms to ensure sustainable development of the railway sector in future.

The lower operating performance and traffic intensity resulted in deteriorating financial results of the railway, especially for cargo transportation (Figure 13),

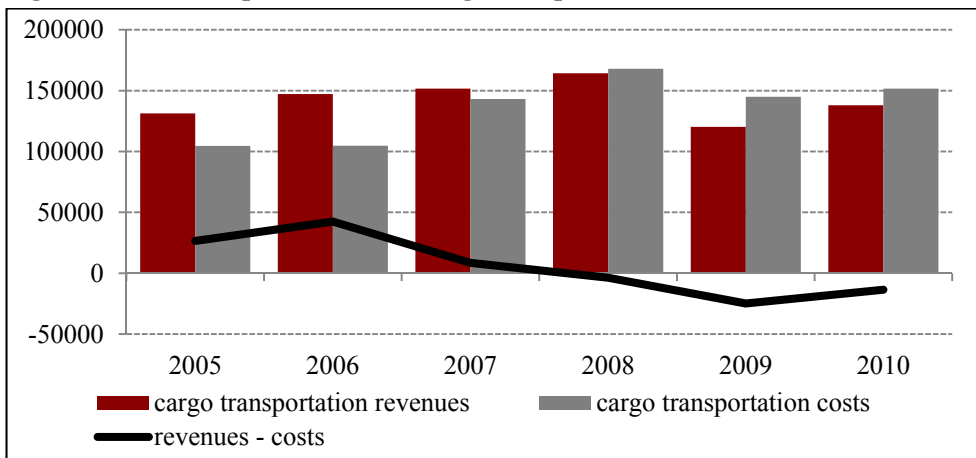
where costs exceeded revenues starting with 2008. Transportation of passengers was also characterized by declining profitability.

Figure 12. Rail traffic intensity



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 13. Financial performance of cargo transportation

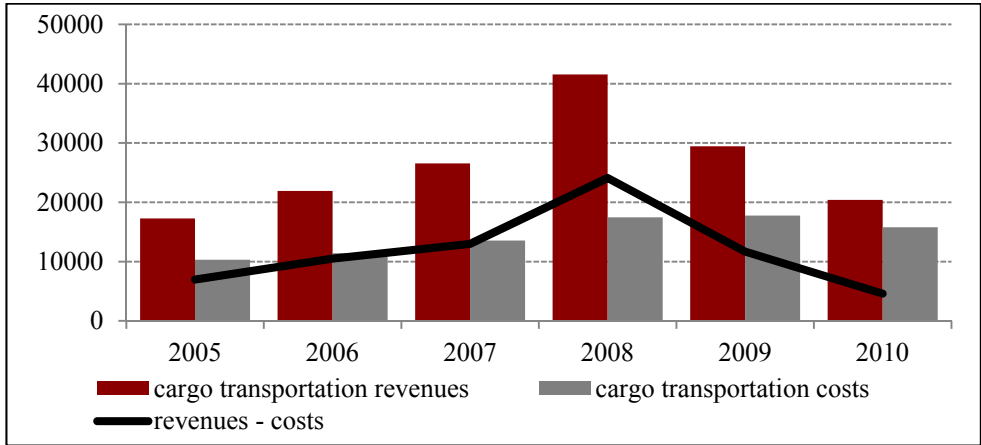


Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

These trends in cargo transportation were associated with significantly higher rates of growth of costs per unit of cargo turnover, compared to revenues. The data shown in Figure 15 indicate that the unit of cargo turnover (measured in ton-km) in domestic market provided the average revenue of 0.015 manats (per ton-km),

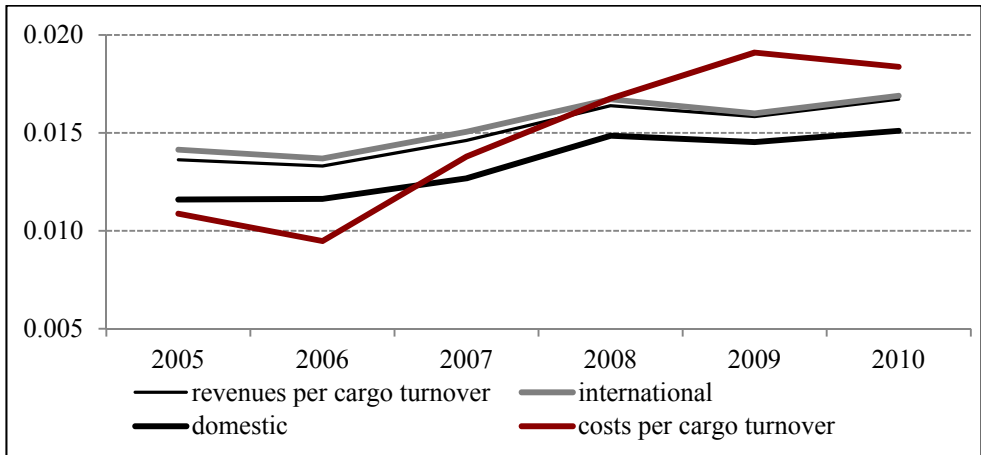
while the cargo turnover unit in international market provided higher revenues of 0.017 manats in 2010. In this case, while the revenue per unit of cargo turnover nearly remained the same in recent years, although tariff rates in 2010 rose by 22.6% yoy, the costs over 2007-2010 grew from 0.014 to 0.018 manats.

Figure 14. Financial performance of passenger transportation



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 15. Revenues and costs per cargo turnover

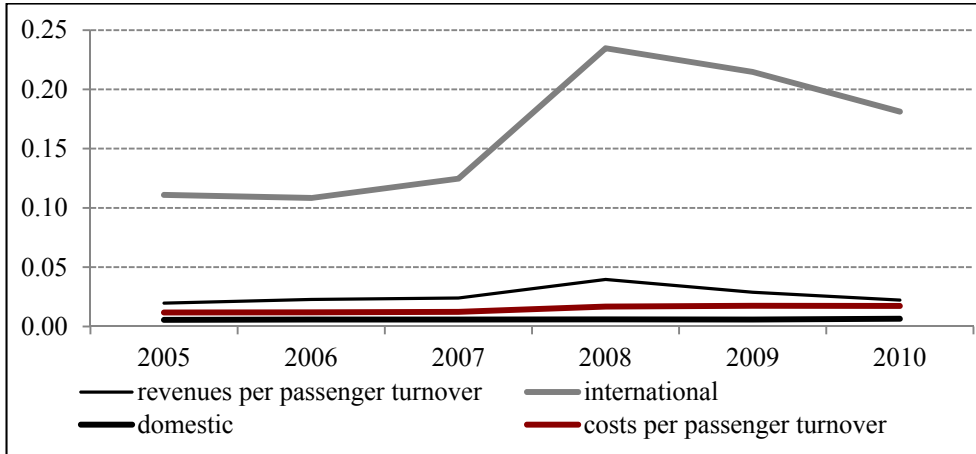


Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

In case of passenger transportation, higher revenues compared to costs were due to revenues per unit of international turnover significantly exceeding revenues

per unit of domestic turnover (0.18 manats per passenger-km and 0.006 manats per passenger-km, respectively), which indicates the cross-subsidization for this type of transportation, and also from the international cargo transportation (Figure 16).

Figure 16. Revenues and costs per passenger turnover



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

2.3. Road transport and roads

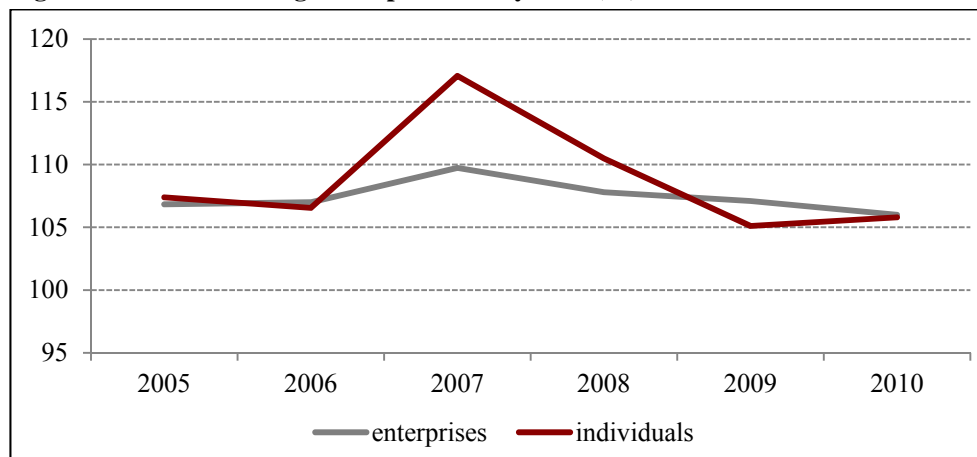
Road transport in Azerbaijan is almost fully privatized, and cargo and passengers are carried by private companies and individuals. The Road Transport Service at the Ministry of Transport of the Republic of Azerbaijan is responsible for formulating and carrying out the state policy in the field of road transport. The state-owned OJSC “Azeryolservis” (“Azəryolservis”), subordinate to the Ministry of Transport, has been responsible for the development of roads and road infrastructure since 2007. The main regulatory acts regulating the activities of road transport include the Law on Road Transport of the Republic of Azerbaijan and the Law on Vehicles of the Republic of Azerbaijan. The country has also adopted the Roads Development Program.

The structure and developments in the subsector

Despite increase in the volume of cargo and cargo turnover, as well as in the number of passengers and passenger turnover, the pace of growth slowed down,

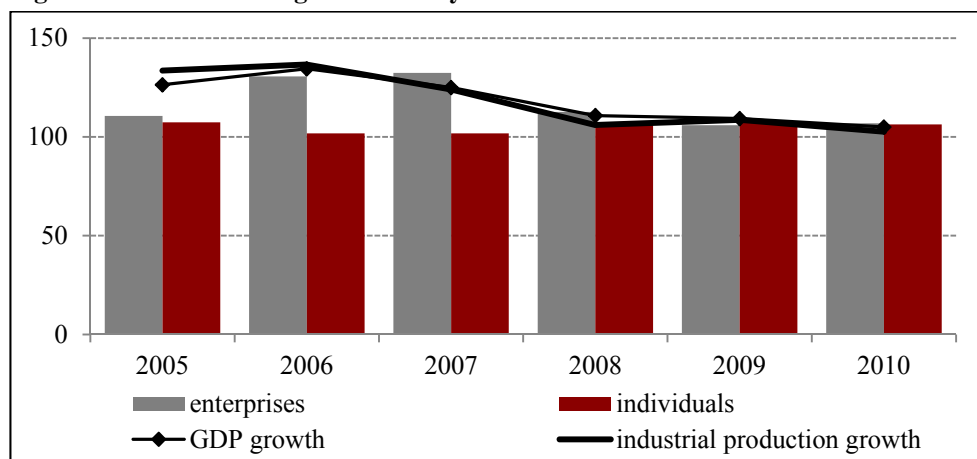
which generally corresponded to the slower growth in GDP and industrial production (Figures 17 and 18).

Figure 17. Growth in cargo transportation by road (%)



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 18. Growth in cargo turnover by road %

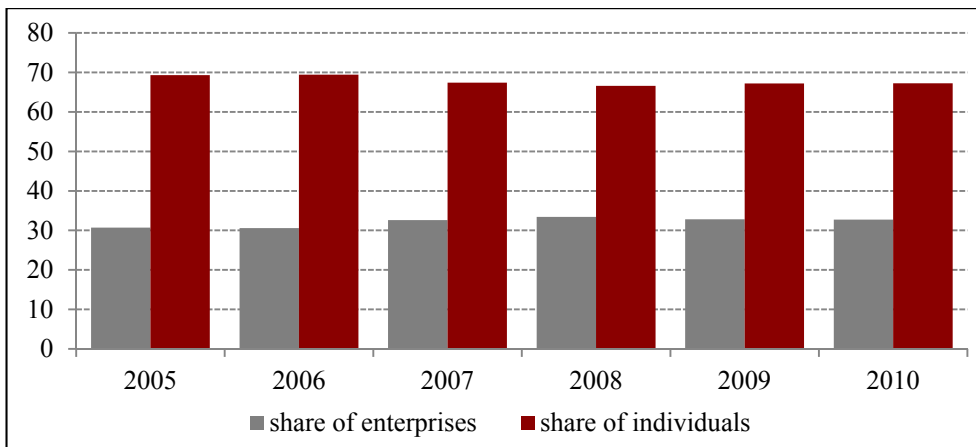


Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Given that the road transport is fully privatized in Azerbaijan, cargo transportation carried out by individuals (physical persons) account for a very considerable share in the total cargo transported and cargo turnover: in 2010 it was 67.3% and 62.8%, respectively. Although the proportion of individuals in cargo transportation

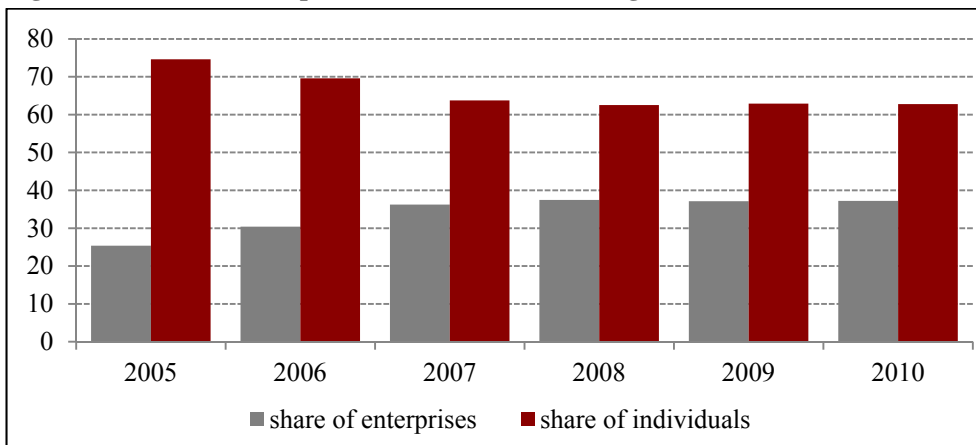
has tendency to decline (Figures 19 and 20), its high value imposes certain restrictions on the development of this sector. As the truck fleet undergoes physical aging and obsolescence, it will be updated slowly because of the limited financial capacity of individual entrepreneurs. As a consequence, it will impede development of transit potential of the road transport sector and make it less competitive in comparison with Turkey, Iran and Russia. Moreover, such a high share of physical persons may potentially lead to an increase of transportation costs due to the aforementioned aging of assets and insufficient economy of scale.

Figure 19. A share of companies and individuals in the total volume of cargo transported (%)



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

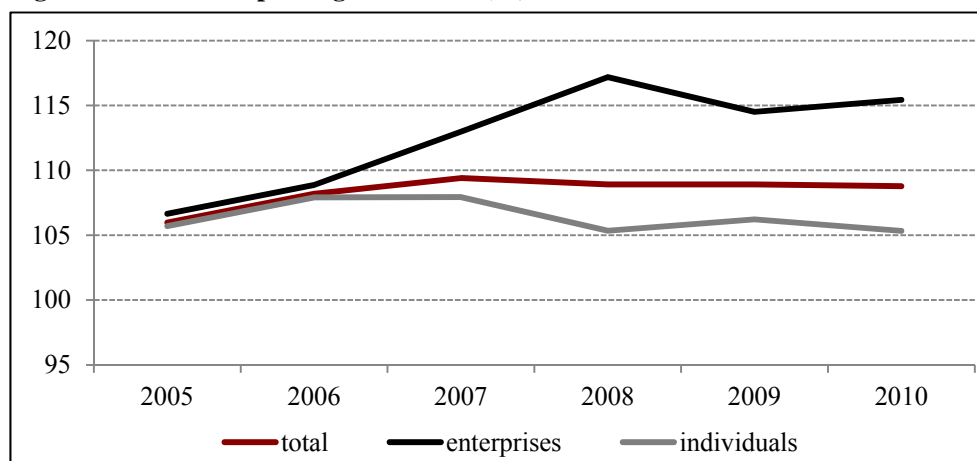
Figure 20. A share of companies and individuals in cargo turnover (%)



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

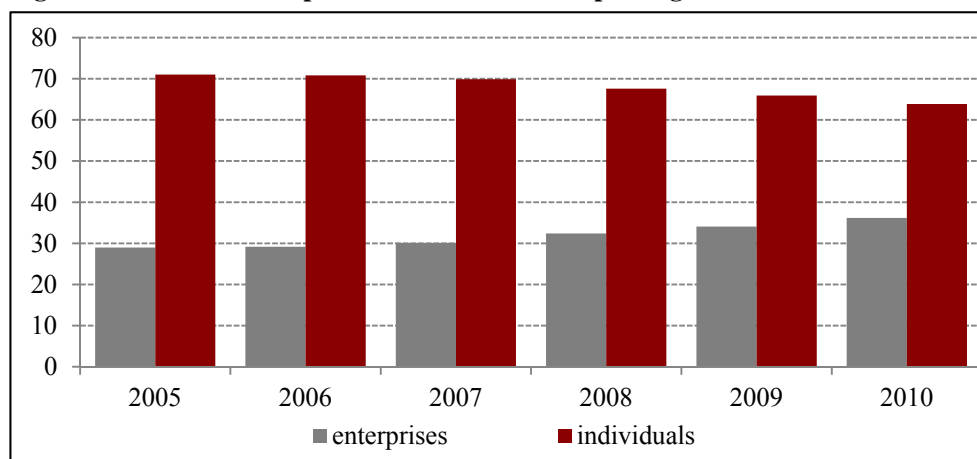
As seen from the data of Figures 21 and 22, in 2005-2010, Azerbaijan saw the growth of passenger turnover, both urban/suburban and intercity, despite the fact that during this period the number of private cars increased by 70%. This means that public road transportation remains an attractive option, partly due to slower growth in tariffs as compared to the consumer price index. For example, in 2010 when annual CPI amounted to 5.7%, tariffs for suburban and local transportation decreased, while intercity tariffs remained unchanged.

Figure 21. Growth in passenger turnover (%)



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

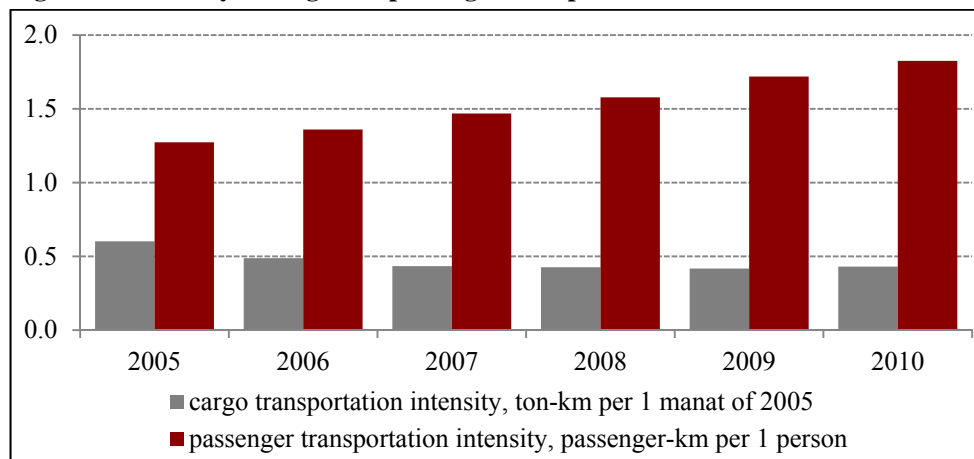
Figure 22. A share of companies and individuals in passenger turnover



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

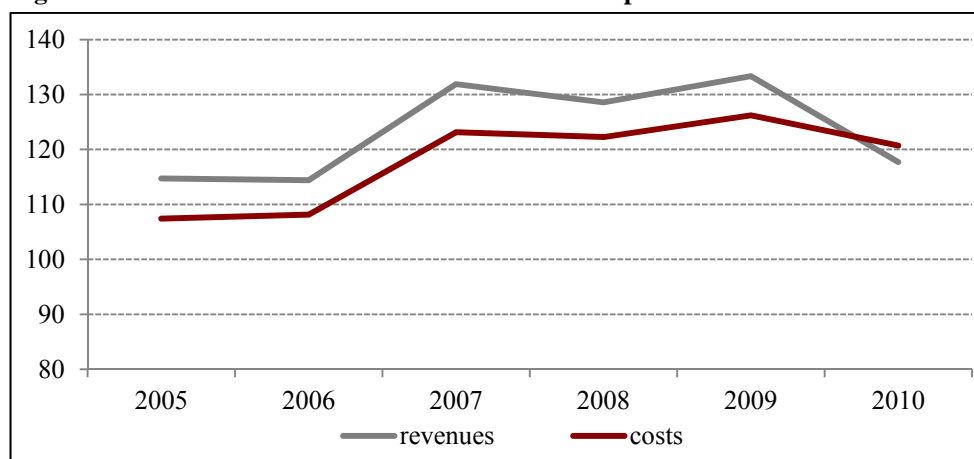
A slow pace of tariffs growth in passenger transportation also contributed to the intensity of passenger transportation (Figure 23). At the same time, the intensity of cargo road transportation declined (in 2005-2010 from 0.6 ton-km per 1 manat of 2005 to 0.4 ton-km by 1 manat of 2005), which was partly due to growth of the share of mining industry (from 67.4% in 2005 to 76.7% in 2010), the products of which are mainly transported by pipeline and rail.

Figure 23. Intensity of cargo and passenger transportation



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Year-book, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

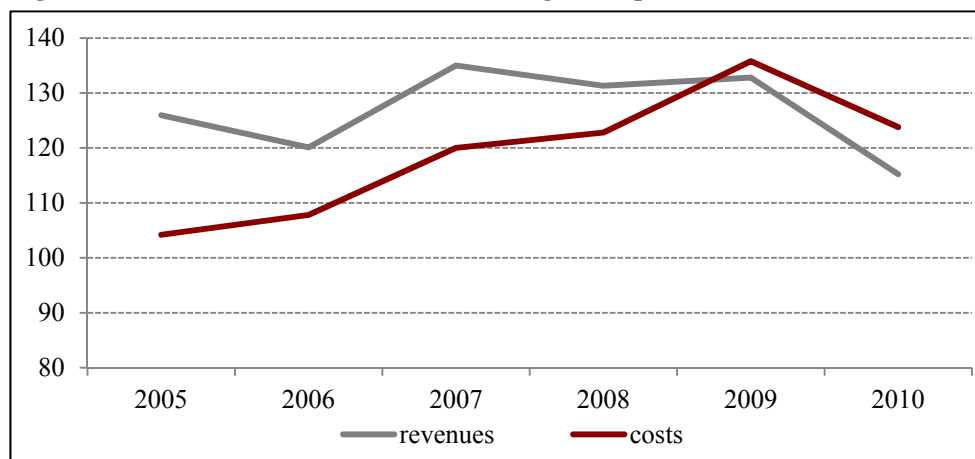
Figure 24. Growth in revenues and costs in road transport



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Year-book, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

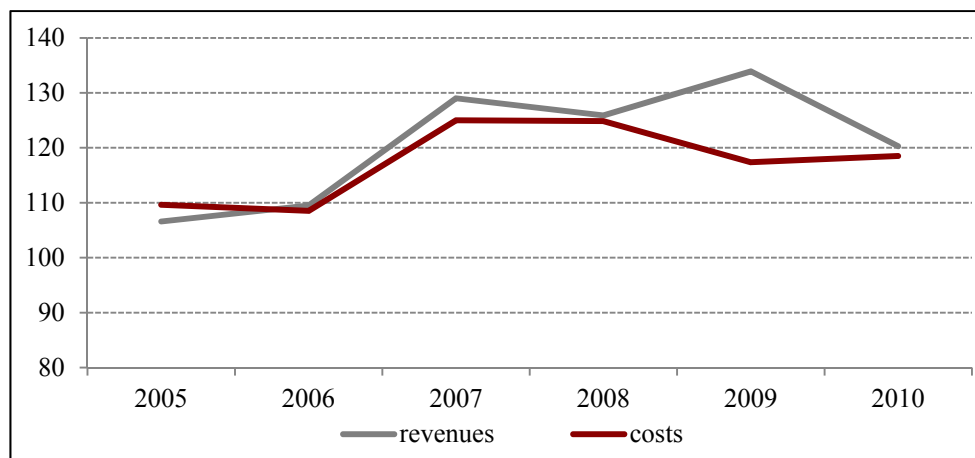
In general, road transport in Azerbaijan was characterized by higher growth of revenues than costs (Figure 24), however, in 2010 this trend was reversed, mainly due to faster growth in costs on cargo transportation (Figure 25). As noted above, this trend may be related to the aging fleet of trucks and a high proportion of transportation carried by individuals.

Figure 25. Growth in revenues and costs in cargo transportation



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

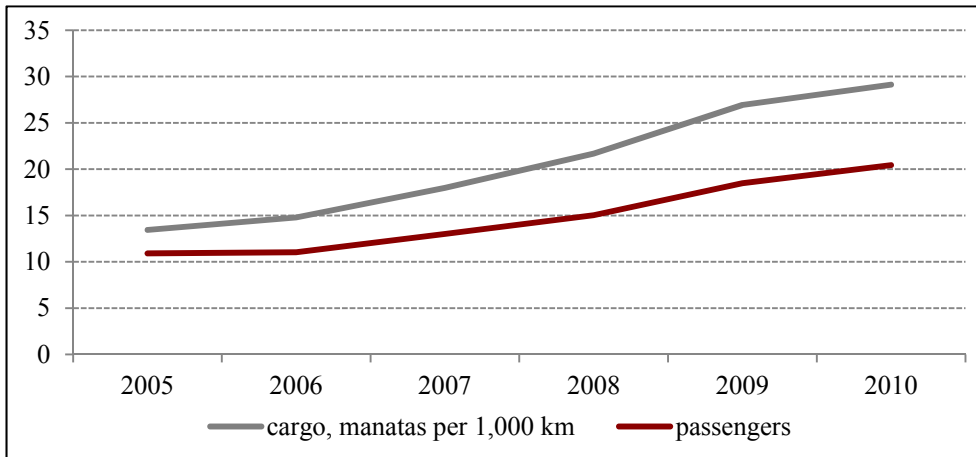
Figure 26. Growth of revenues and costs on passenger transportation



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Passenger transportation also experienced a slowdown in revenue growth (Figure 26). However, the overall profitability of both cargo and passenger transportation grew. In the period over of 2005-2010 it increased by 2.2 times for cargo transportation (up to 29.1 manats for 1,000 ton-km), and by 1.9 times for the passenger transportation (up to 20.4 manats for 1,000 passenger-km) (Figure 27).

Figure 27. Profitability of road transportation



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Roads

The total length of public motor roads in Azerbaijan is 18,977 km, of which 4,631 km are roads of national importance and 14,346 are roads of local importance. Of these, 191 km of roads meet the requirements to four-lane highways.⁶ Paved roads make up 99% of the total road network. The density of roads in the country is 288 km/1,000 sq. km. The density of the road network of Category 1 (highways) in Azerbaijan is 21 km per 1 million people, which is quite low for the European Region (one of the lowest indicators in the EU is in Ireland (27) and Greece (47)).

Given that Azerbaijan takes 104th position out of 155 countries for the quality of infrastructure (including the quality of roads) in the Logistics Performance Index (LPI) (2010), it can be suggested that a significant portion of the existing network of public roads in Azerbaijan is in poor condition and requires more expenditures on construction, operation and maintenance of transport infrastructure. It

⁶ According to the data of the Ministry of Transport.

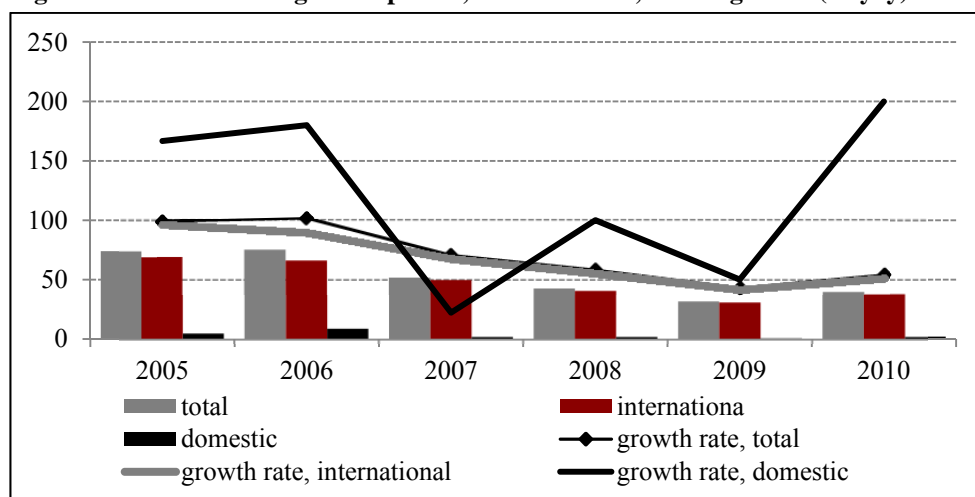
should also be noted that in 2005-2010 there was a significant increase (by 48.9%) in the cargo transportation density (cargo turnover per kilometer of the road), and the number of vehicles in the country also increased significantly (by 60.5%). This poses additional challenges for the road management and requires accelerated repair and restoration of roads, as well as bringing the quality of the road network in accordance with the existing level of transportation flows.

2.4. Civil Aviation and airports

Regulators

The State Civil Aviation Administration of the Republic of Azerbaijan, established by Presidential Decree No. 512 of December 29, 2006, is the national executive body carrying out control, public policy and regulation in the field of civil aviation. The CJSC “Azerbaijan Airlines” is the state owned enterprise, which manages the field of civil aviation. Subordinate to it are the national Azerbaijan Airlines (“Azərbaycan Hava Yolları”) (AZAL), Baku International Airport named after Heydar Aliyev, international airports of Nakhichevan, Zagatala, Ganja, Lenkoran and other airports, the State Cargo Airline, and other businesses.

Figure 28. Volume of cargo transported, thousand tons, rate of growth (% yoy)

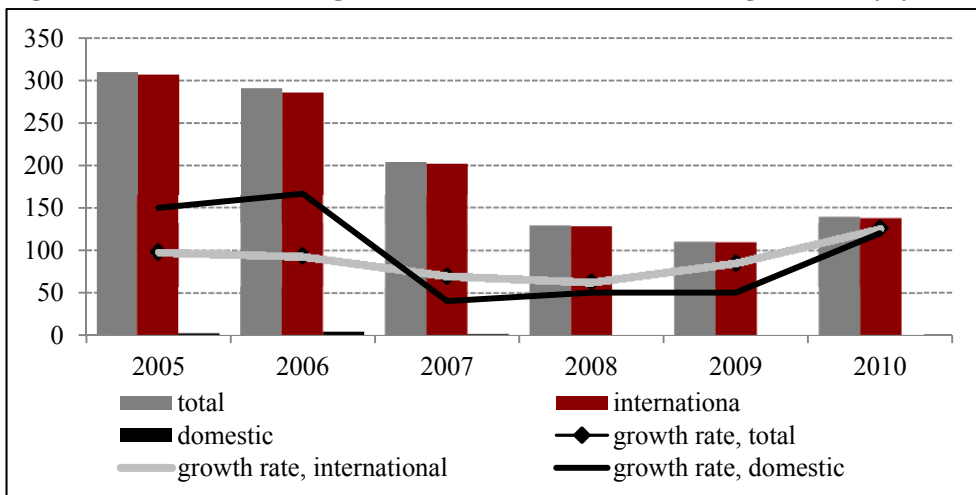


Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Developments in the subsector

In 2005-2010, there was a significant decrease in both the volume of cargo transportation by air and cargo turnover. Compared with 2005, the transportation of cargo decreased by 46% and the cargo turnover – by 55.2%, with the exception of 2010. The whole period under review also showed a decrease in these indicators compared to the previous year. At the same time, domestic cargo transportation represented the opposite trend which, however, had no impact on the overall figures due to its very small share in the total volume of air cargo (5% in 2010) and in the total cargo turnover (0.4%).

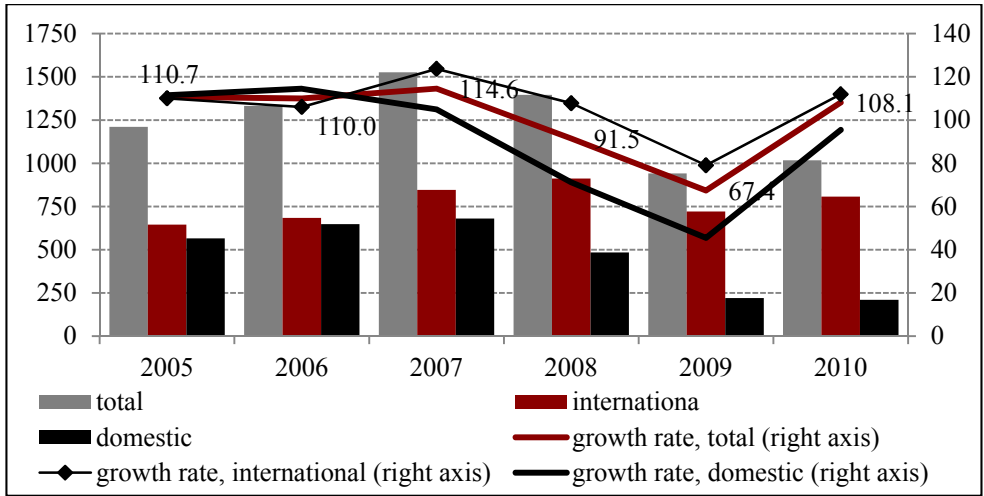
Figure 29. Volume of the cargo turnover, million ton-km, rate of growth (% yoy)



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

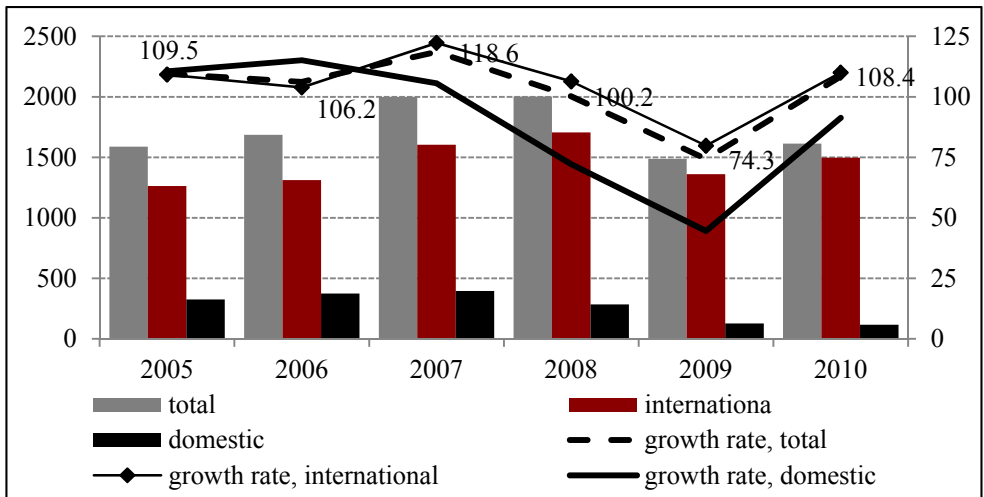
The number of passengers also decreased by 16% over 2005-2010. However, this was primarily due to the decline in domestic transportation by 2.7 times while international transportation grew by 25%. The same trend was observed in respect to volume of passenger transportation services on domestic lines which decreased by 64.3%, while the passenger turnover on international lines rose steadily until 2009. Some reduction in its volume noted in 2009-2010 as compared with previous years was caused by the global financial crisis. The decreasing trend in domestic passenger air transportation cannot be surprising given the small country's area, competition of rail and road transport and rapidly growing number of private cars.

Figure 30. Volume of passengers transported, thousand people, growth rate (% yoy)



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 31. Volume of passenger transportation (million passenger-km, growth rate (% yoy))

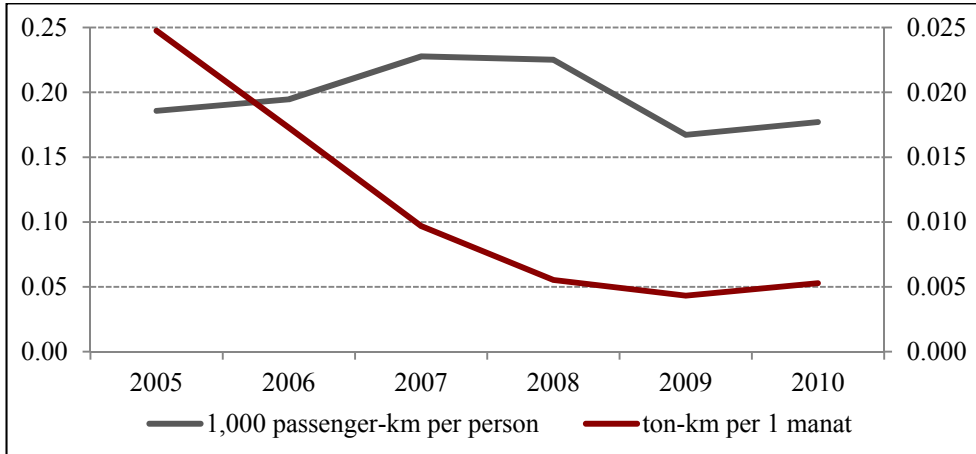


Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

In 2005-2010, due to declining volumes of cargo transportation and cargo turnover, there was a sharp decrease in the intensity of cargo transportation (Figure 32), which automatically led to an increase in the air transport costs. As for passenger transportation, this trend was less significant. However, in 2010 as com-

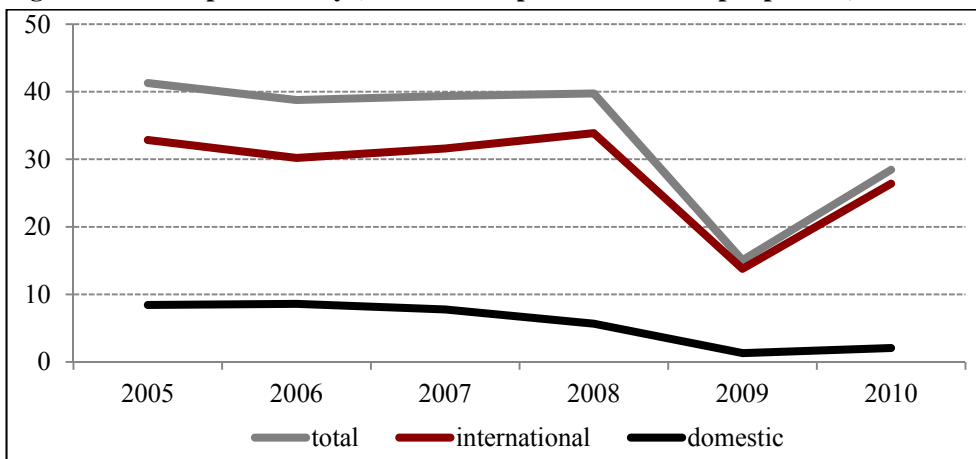
pared with 2005, the transportation intensity decreased from 0.188 (1,000 passenger-km per person) to 0.177.

Figure 32. Intensity of cargo and passenger transportation



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 33. Labor productivity (based on comparable turnover per person⁷)

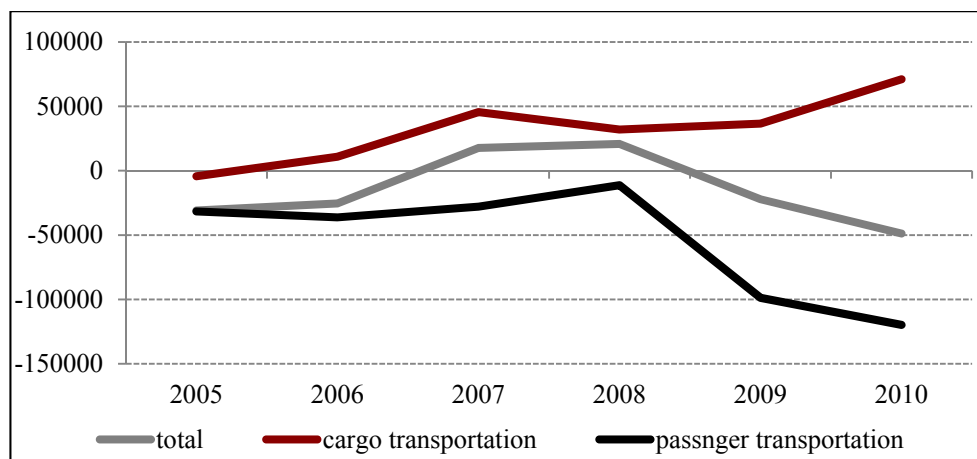


Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

⁷ To estimate the comparable cargo turnover, passenger turnover was recalculated into ton-km based on the average passenger weight (including checked-in baggage) of 90 kg (according to the International Air Transport Association (IATA)). See, e.g. http://www.icao.int/STA10/docs/STA10_wp005_ru.pdf.

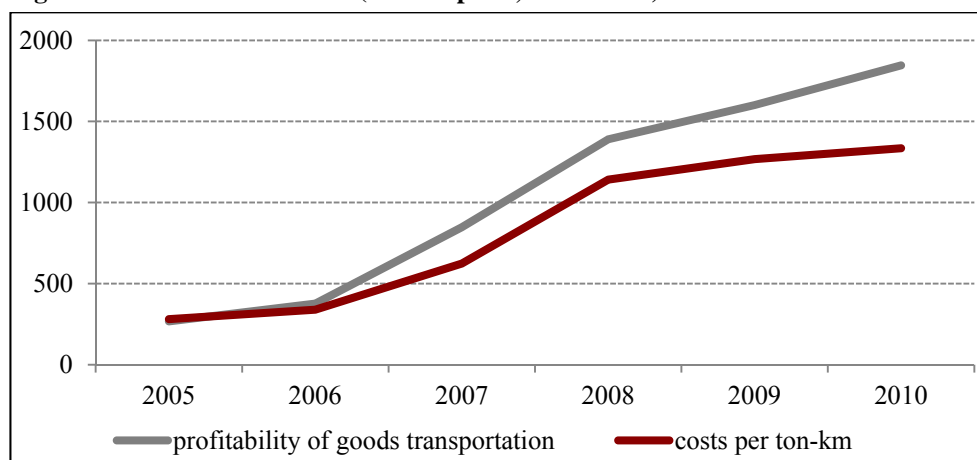
Lower labor productivity observed in both international and local lines should be considered as an unfavorable trend, indicating some deterioration in operating performance of the air transport and reduction of the efficiency of this mode of transport.

Figure 34. Financial performance of the air transport (revenues – costs), thousand manats



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 35. Revenues and costs (manats per 1,000 ton-km)

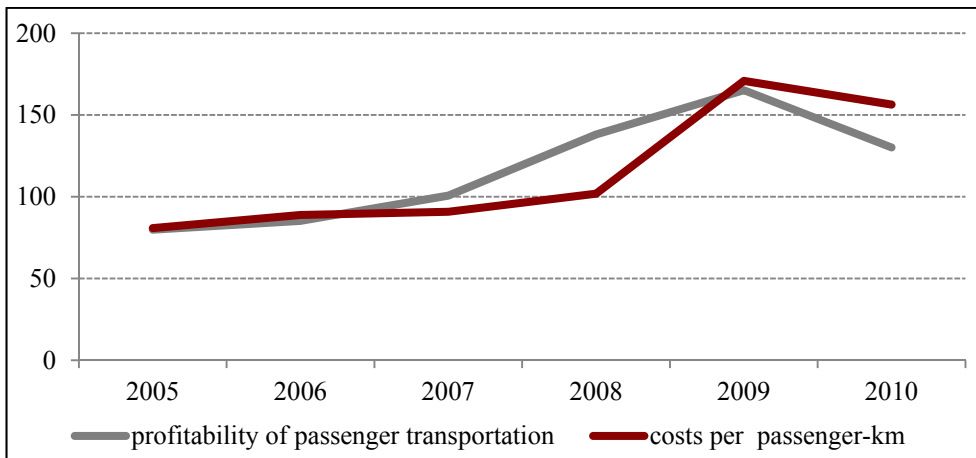


Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Declining intensity of transportation and labor productivity led to deterioration of financial performance of this mode of transport (Figure 34). First of all, this concerns passenger transportation, which is unprofitable, including the international routes. In cargo transportation, in general, revenues exceed costs.

It was due to the fact that revenues of 1,000 ton-miles exceeded costs although in case of passenger transportation the situation was quite the opposite starting from 2009.

Figure 36. Revenues and costs (manats per 1,000 passenger-km)



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

The observed trends in the air transportation indicate the need to take measures which can improve its capacity and efficiency.

2.5. Maritime transport and ports

Regulators

Azerbaijan State Maritime Administration is responsible for carrying out the state policy and developing state programs in this sector. The legal framework for the commercial shipping is regulated by the Shipping Code.

Transportation of cargo and passengers by sea in Azerbaijan is provided by the Azerbaijan State Caspian Shipping Company, which includes transportation, technical, service and support vessels, ship repair production association “Kaspmorsu-

doremont”, educational, trade, supply and shipping and agent organizations. The prevailing share in the cargo transportation belongs to oil and oil products.

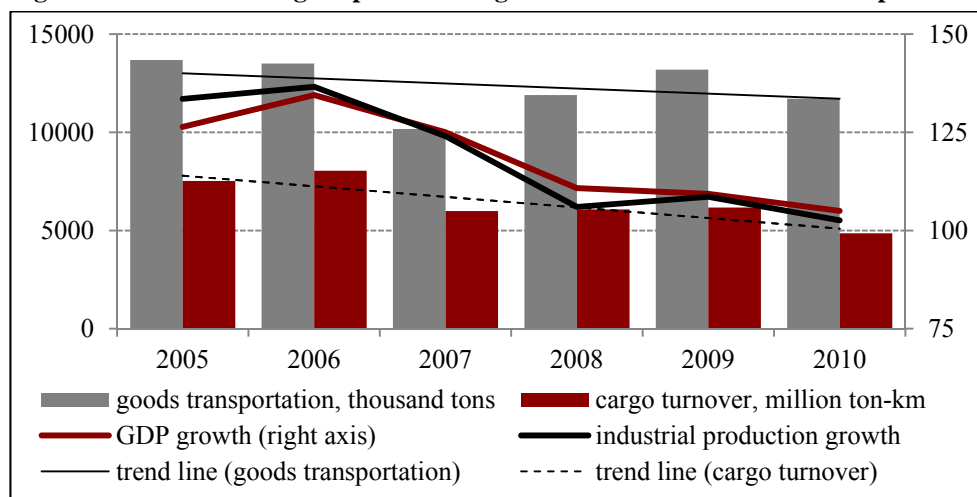
The transport fleet of Azerbaijan consists of 70 vessels, of which 34 are tankers (water carriers), 26 are universal dry cargo vessels, two Ro-Ro vessels and 8 nautical rail freight ferries.⁸

Baku International Sea Port consists of 4 main terminals (the General Cargo Terminal, Timber Terminal, and Apsheron Oil Terminal). By 2015, the seaport will be moved from the center of Baku to the village of Alat, where a new port is being built. In 2010, crude oil and petroleum products accounted for 50% (58.5% in 2009) of the total amount of the cargo handled in the port. According to World Bank classification, the Baku International Sea Port works primarily as a service port with the elements of the tool port model.

Developments in the subsector

The cargo turnover in the maritime transport of Azerbaijan has tended to decrease over the recent years. In 2010, it decreased by 35.4% compared to 2005.

Figure 37. Volume of cargo export and cargo turnover in the maritime transport

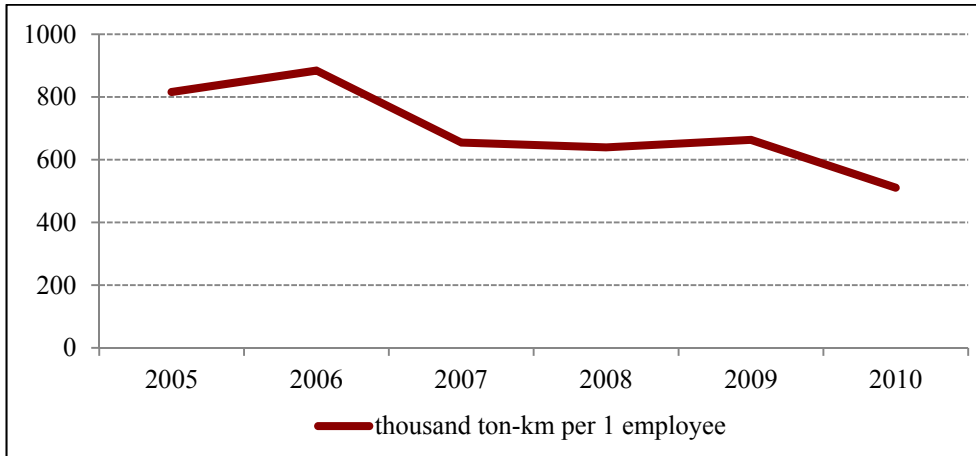


Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011 (the right axis shows GDP and industrial production growth rates).

⁸ As per the data of the Ministry of Transport of the Republic of Azerbaijan.

In general, it corresponded with the GDP and industrial output dynamics, as major commodities transported by sea included oil and oil products, which accounted for a very high share in the industrial production. It should be noted, however, that transit had a high share in the total amount of cargo (56.5% in 2005 and 65.9% in 2010). The volume of transit decreased significantly in 2005-2007, but, by 2010, it started to grow again.

Figure 38. Labor productivity in maritime transportation

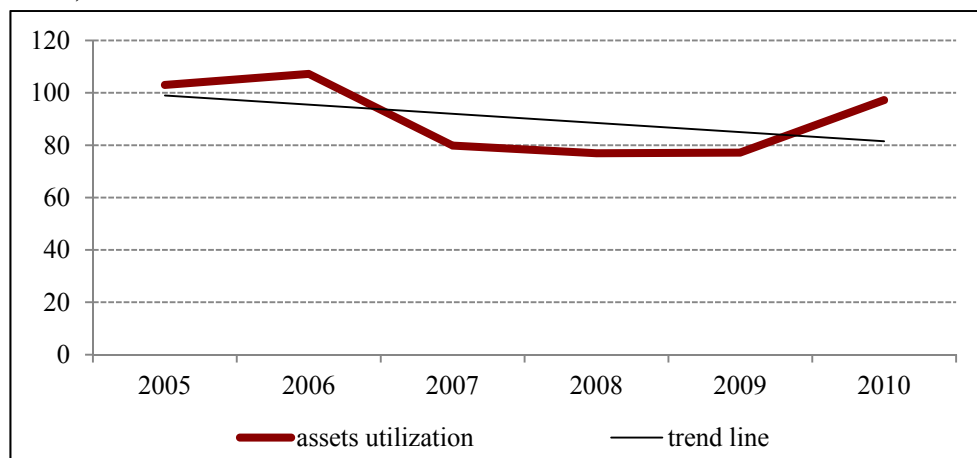


Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

During the reviewed period there was a steady decline in labor productivity and utilization of assets (ships) (Figures 38 and 39), which indicated a decreasing efficiency of the maritime transport in Azerbaijan. The improvement in assets utilization in 2010 was caused by a substantial reduction in the vessels fleet (by 37.5% as compared with 2009) due to their high wear and obsolescence.

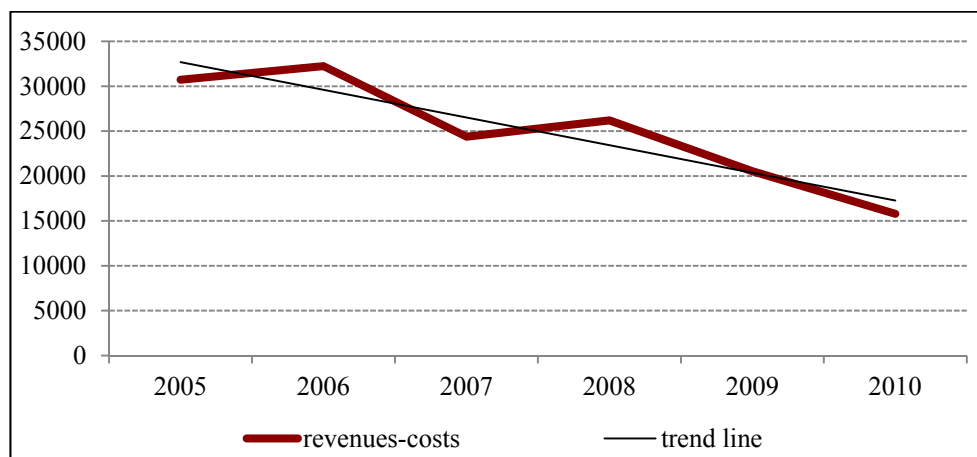
Deterioration in operating performance and labor productivity of the maritime transport resulted in rapidly increasing costs per 1,000 ton-km as compared with revenues. While in 2010, as compared with 2005, the first indicator rose by 2.2 times, the second one increased by only 75%, which resulted in narrowing the gap between the revenues generated from maritime cargo transportation and the costs incurred (Figure 40). In general, we can state that this sector has accumulated a number of problems which require a careful approach and respective corrective measures.

Figure 39. The assets utilization in the maritime transport (million ton-km per one vessel)



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

Figure 40. Financial performance of the maritime transport (revenues – costs), thousand manats



Source: estimates based on the data as provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

3. Infrastructure Sectors Reforms in 2010-2011

The indices in this chapter have been estimated following the approach of the European Bank for Reconstruction and Development (EBRD), and methodology developed by the Institute for Economic Research and Policy Consulting (IER) in Kyiv, Ukraine.⁹ The indicators are standardized and based on qualitative expert assessment (on a scale of 1 to 4) covering three major areas: 1) commercialization and privatization, 2) tariff policy, and 3) institutional and regulatory changes. The aggregated index reflecting the level of the transport sector reforms is calculated on the basis of 21 detail indicators. The next section provides a brief description of the criteria for scoring of each index.

3.1. General description of the transport sector reform indices

The following criteria were used to score each index.

1. Commercialization and privatization

1.1. Ownership

- 1.1.1. **Natural monopoly.** A score of 1.0 means that the natural monopoly has a state form of ownership; the score increases with an increasing share of separation, corporatization and privatization of the natural monopoly. The maximum score 4.0 is reached with private ownership of the sector.
- 1.1.2. **Potentially competitive businesses.** Similar with the above indicator, a score of 1.0 implies that all the businesses are part of the natural monopoly or state-owned. The score increases with increased separation, corporatization and privatization of businesses. The maximum score 4.0 is reached when all businesses are in private ownership.

⁹ See www.ier.kiev.ua.

1.1.3. **Ancillary businesses.** A score of 1.0 means that all ancillary businesses are state-owned. The score increases with the degree of separation and privatization of businesses.

1.2. Operation

1.2.1. **Natural monopoly.** A score of 1.0 is given when the natural monopoly is operated as a government department. The score increases with reorganization into an independent state agency or a company, and establishment of an independent regulator. The maximum score 4.0 is assigned if the natural monopoly is managed by a private company, subject only to an independent regulator, established by law.

1.2.2. **Natural monopoly planning and investment decisions.** A score of 1.0 implies strong political interference in business management and investment decision-making. The score increases as commercial objectives such as profitability and operational efficiency are set. The maximum score 4.0 is assigned if network extensions and new investment are conducted solely based on profitability considerations.

1.2.3. **Private sector participation in service contracts.** A score of 1.0 means that the private sector does not participate in construction, maintenance or rehabilitation, etc. The score increases with increasing participation in these activities by the private sector.

1.3. Organizational structure

1.3.1. **Separation of the natural monopoly and potentially competitive businesses.** A score of 1.0 implies no separation between different service providers. The score increases with increased separation between businesses. The highest score of 4.0 is assigned when different services are provided by separate private companies.

1.3.2. **Separation of ancillary businesses.** A score of 1.0 means no separation of ancillary businesses from the natural monopoly or potentially competitive businesses. The score increases with increasing degrees of separation. The maximum score of 4.0 implies complete separation between the natural monopoly and potentially competitive businesses, on one side, and ancillary businesses.

1.3.3. **Decentralization.** A score of 1.0 is applied in case of no or minimal decentralization. The score increases with increasing decentralization. Decentralization implies autonomy of decision-making at the regional level concerning investments and tariffs. The highest score of 4.0 is assigned when the industry is divided into competing regional monopolies.

2. Tariff policy reform

2.1. Structure of tariffs

2.1.1. **Political considerations or the regulator.** A score of 1.0 implies strong political interference in tariff setting. The score increases with declining political interference. The maximum score of 4.0 is reached when the tariff is set at the level fully covering costs of an infrastructure operator regulated by an independent regulator.

2.1.2. **Natural monopoly pricing.** A score of 1.0 is connected with pricing below costs accompanied by a substantial degree of cross-subsidization. The score increases when tariffs reflect costs and cross-subsidization declines.

2.1.3. **Pricing by potentially competitive businesses.** A score of 1.0 implies a low level of cost-recovery in tariffs. The score increases with the degree of setting tariffs in accordance with market principles.

2.2.1. Payments

2.2.2. **Intra-industry payment ratios.** A score of 1.0 is applied when arrears are constantly accumulating and settlements are mainly non-monetary. The score increases as monetary settlements are carried out and arrears approach zero.

2.2.3. **Final consumer collection rates.** A score of 1.0 means low revenue collection from final consumers (households and companies) and constantly accumulating arrears. The score increases as progress in revenue collection is made and reaches its maximum (4.0) when services are fully paid for.

2.2.4. **Budgetary arrears.** A score of 1.0 implies budgetary indebtedness for services provided to government and arrears in compensations for services provided to privileged consumers. The score increases as this indebtedness is reduced to zero.

2.3. Budget support

2.3.1. **Subsidization level.** A score of 1.0 means that some groups of consumers are heavily subsidized by the government in an explicit or implicit form. For example, the government may pursue a constant practice of debt forgiving and restructuring. Reduction in explicit and implicit subsidies leads to improved scores.

2.3.2. **Support procedure.** A score of 1.0 is assigned when the subsidies are directed to service suppliers and are provided in non-transparent manner. The score improves as the subsidization procedure becomes more transparent, with cash support to consumers replacing price subsidies.

3. Institutional and regulatory development

3.1. Effective regulatory institutions

- 3.1.1. **Management selection in competitive businesses.** A score of 1.0 means that the company management is appointed by government officials. The score increases when the top management is elected by shareholders, and reaches its maximum when the shareholders are only private companies or individuals.
- 3.1.2. **Independence of the natural monopoly regulator, insulation from political influence.** A score of 1.0 is assigned when the industry operates as a government department. The score increases as an independent regulator is established. The highest score of 4.0 implies regulation of the natural monopoly according to law.
- 3.1.3. **Transparency of regulation.** A score of 1.0 implies an absence of the legislation defining clear rules of the game for businesses and the obligations of government authorities. The score increases with the development of legislation and its enforcement, including when the decision-making process becomes open to public. The maximum score (4.0) is reached when the natural monopoly is regulated only by an independent regulator in accordance with law, and all decisions are publicly disclosed.
- 3.2. **Pricing policy in network access regulation.** A score of 1.0 means that the access right is arbitrary determined by government. The score increases as access is regulated by an independent regulator, then negotiated, and finally determined by the tender results.

3.2. Explanations of the infrastructure reform indicator evaluation in 2010-2011

RAILWAYS

1. Commercialization and privatization

1.1. Ownership

- 1.1.1. The basic railway network is 100% state owned. A certain share of connecting railways which link enterprises to the basic network are owned by these enterprises: 2.0.
- 1.1.2. All passenger and cargo transportation is carried out by the state-owned holding containing a large number of individual legal entities. In addition, there are some private transport and shipping companies operating in the

market. The rights of transportation operator are also granted to the companies Middle East Petroleum and Azersun that have licenses to carry oil by rail and have their own cargo rolling stock: 2.5.

- 1.1.3. All ancillary businesses are state owned and constitute a part of the CJSC “Azerbaijan Railways”, though some of them have a status of separate legal entities: 1.5.

1.2. Operation

- 1.2.1. The natural monopoly is managed by the state-owned CJSC Azerbaijan Railways: 2.5.
- 1.2.2. The primary objective of Azerbaijan Railways is to satisfy the needs of businesses and the population in transportation services. In addition, since Azerbaijan Railways is incorporated as a closed joint-stock company, it is also aimed at commercialization and performance improvement. However, the state regulates investment decision-making processes: 2.5.
- 1.2.3. There is private sector participation in service contracts to supply materials and equipment, and to provide services to Azerbaijan Railways. The tendering information is published in printed media. Nevertheless, the efforts to engage the private sector based on contracts brings positive effects: 2.5.

1.3. Organizational structure

- 1.3.1. No separation of potentially competitive businesses from the natural monopoly operators has taken place so far: 1.0.
- 1.3.2. Ancillary businesses are independent legal entities within the structure of Azerbaijan Railways. There are very few non-core businesses, as healthcare and education institutions, in the structure of Azerbaijan Railways: 2.5.
- 1.3.3. The level of decentralization is low, as the autonomy at the regional level in the investment decision-making is virtually nonexistent. Nakhchivan Railways is a limited liability company, but it has no commercial orientation, and it gets financial support from the Azerbaijan Railways since its activity is limited due to the Armenian-Azerbaijani conflict: 2.0

2. Tariff reform

2.1. Tariff structure

- 2.1.1. Tariffs for domestic transportation services are set independently from Azerbaijan Railways by the Tariff Council. International transportation tariffs are set under international agreements. Tariffs for domestic transportation are set under the influence of non-economic factors, as these tariffs are believed to affect population’s living standard: 3.0.

2.1.2. Tariffs for transportation should cover the cost arising from service provision and allow for development of the railway network. The amount of cross-subsidization is insignificant, and it was observed mainly between domestic and international passenger transportation. In 2010, however, the tariffs for domestic passenger transportation remained the same, although inflation reached 105.7%. Yet, in early 2011, the tariffs were significantly increased: 3.0.

2.1.3. The costs of Azerbaijan Railways exceed revenues and, in particular, costs of cargo transportation exceed revenues¹⁰, with the same pattern observed in domestic passenger transportation, which indicates that tariffs do not cover full costs of potentially competitive business activities (cargo transportation): 2.5.

2.2. Payments

2.2.1. Azerbaijan Railways has no intra-industry indebtedness, though settlements are mainly non-monetary: 1.5.

2.2.2. Fares in the passenger transport are collected from all users in a full amount. Privileged fares have been abolished. As for cargo transportation, we should note some indebtedness of enterprises for the transportation services provided by the Azerbaijan Railways: 3.5.

2.2.3. As there are no privileged passengers, Azerbaijan Railways does not have to cover budget losses. There is no budget indebtedness for the services provided: 4.

2.3. Budget support

2.3.1. Some consumer groups, especially users of suburban and intercity trains, are cross-subsidized at the expense of other types of transportation (for example, international passenger transportation): 2.0.

2.3.2. In 2010, certain categories of consumers were provided with price subsidies (domestic passenger transportation) but income support is not provided to replace price subsidies: 1.5.

3. Regulatory and institutional development

3.1. Effective regulatory institutions

3.1.1. The CEO of Azerbaijan Railways is appointed directly by the President. His deputies are appointed by Azerbaijan Railways: 2.0.

¹⁰ As per the data provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

- 3.1.2. Since 2009 Azerbaijan Railways is a closed joint-stock company, though operating under supervision of the Ministry of Transport. The government has a substantial influence on its activity: 2.5.
- 3.1.3. The operational rules of Azerbaijan Railways are defined in a number of regulatory documents (the Law on Transport). However, there is no law regulating the activities of railways: 2.
- 3.2. Access regulation.** Access to the market for outside companies is limited due to the absence of legislation, for example, the law on railways. Access is determined both by the state and the CJSC Azerbaijan Railways: 2.5.

ROAD TRANSPORT AND ROADS

1. Commercialization and privatization

1.1. Ownership

- 1.1.1. Public roads are in fully state owned: 1.0.
- 1.1.2. Transportation enterprises are independent legal entities. Transportation services are also provided by private individuals. Local passenger transportation services are provided by private firms and individual entrepreneurs. Private cargo transportation enterprises provide about 89% of the total amount of cargo transportation services: 3.8.
- 1.1.3. Road maintenance enterprises are state owned. They are independent incorporated legal entities: 2.5.

1.2. Operation

- 1.2.1. Road management (maintenance/repairs and operation) is carried out by the OJSC “Azeryolservis” (“Azəryolservis”), which is state-owned and subordinate to the Ministry of Transport: 2.5.
- 1.2.2. Investment decisions on road infrastructure are taken by government: 1.3.
- 1.2.3. Road construction services are mainly provided by private contractors. Private sector companies can also participate in tenders to supply materials and equipment. Road maintenance and operation is provided by the OJSC “Azeryolservis”: 3.0.

1.3. Organizational structure

- 1.3.1. Road management is completely separated from passenger transportation and construction services: 3.0.
- 1.3.2. Road construction companies are separated from the road operator. Cooperation between them is based on tendering procedures: 4.0.
- 1.3.3. The road operator is divided into regional units, although these units do not have legal independence: 1.5.

2. Tariff reform

2.1. Tariff structure

- 2.1.1. Tariffs for domestic passenger transportation are set by the Tariff Council. Tariffs for cargo transportation are set by legal entities and individuals on their own: 3.5.
- 2.1.2. According to legislation, road maintenance and management should be financed from the Road Fund formed from different sources such as the tax on fuel, and others. User fees are levied on truck companies depending on the truck's parameters and the distance travelled. There are no toll roads: 2.5.
- 2.1.3. There is competition between various carriers in the cargo and passenger transportation market, though this competition is limited by the license requirement, and the selection of carriers is made competitively (for urban passenger transportation services). Tariffs for urban and intercity passenger transportation services are set by the Tariff Council.¹¹ In 2010, the tariffs for intercity, urban and suburban transportation services remained the same. Tariffs for cargo transportation services provided by private firms and individual entrepreneurs are not subject to regulation: 3.5.

2.2. Payments

- 2.2.1. There is no indebtedness, as there are no monetary settlements between line structural units and the OJSC "Azeryolservis": 2.0.
- 2.2.2. As fares in the public transport are paid by passengers themselves, they do not owe anything to transport enterprises. Social privileges in transportation services have been abolished. Cost recovery of passenger transportation is high enough: 3.5.
- 2.2.3. State funding of road construction in 2011 improved in comparison with 2010. The Road Fund increased by 5.9%. There is no inappropriate use of the Road Fund. There is no budget indebtedness for the services provided to the state: 4.

2.3. Budget support

- 2.3.1. There are no direct or indirect state subsidies for different groups of consumers. The branch (road transportation) operates in a cost-efficient manner: 4
- 2.3.2. There are no subsidies allocated as there are no price subsidies for consumers in road transportation services: -.

¹¹ As approved by the Cabinet of Ministers in 2005.

3. Regulatory and institutional development

3.1. Effective regulatory institutions

- 3.1.1. The management of state-owned companies is appointed by the Ministry of Transport: 2.0.
- 3.1.2. The OJSC “Azeryolservis” (“Azərbayolşervis”), the monopoly operator of public roads, is an open joint-stock company reporting to the Ministry of Transport: 2.0.
- 3.1.3. The rules of road operation are clearly described in legislative acts (the Law on Highways, the Law of Road Traffic). However, they do not envisage opportunity for private sector participation: 2.5.

3.2. Access regulation. Access is regulated by licensing. The local level route tendering procedures are not transparent. The procedure for granting permits to operate routes is transparent. There are clear rules for holding tenders for routes. Tenders are held for road construction. However, repair and maintenance are carried by state enterprises only: 3.0.

AIR TRANSPORT

1. Commercialization and privatization

1.1. Ownership

- 1.1.1. The sector is operated by the state-owned closed joint-stock company “Azerbaijan Airlines” (“Azərbaycan Hava Yolları”). The State Civil Aviation Administration carries out state policy, governance and regulation in civil aviation: 2.
- 1.1.2. Potentially competitive enterprises are state-owned and constitute the part of Azerbaijan Airlines. However, there are independent private cargo and passenger carriers in the sector: 2.5.
- 1.1.3. Ancillary businesses (construction, ground handling, in-flight catering, and parking) are mainly private. Fuel supply is provided by the maintenance unit of Azerbaijan Airlines. Construction at the airport is carried out by private companies through tenders: 3.0.

1.2. Operation

- 1.2.1. Azerbaijan Airlines operates as an independent state enterprise: 2.0.
- 1.2.2. Azerbaijan Airlines is a joint-stock company, i.e. is profit-oriented. However, in 2010, the revenues generated from air transportation were lower than costs.¹² In 2011, the financial situation of the sector changed, the revenues increased and the volume of passenger transportation rose

¹² As per the data provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

sharply: 2.5.

- 1.2.3. There is significant participation of the private sector in maintenance work: 3.0.

1.3. Organizational structure

- 1.3.1. Cargo and passenger transportation is carried out by both state and private operators. Azerbaijan Airlines provides both passenger and cargo transportation services, with the first ones separated from the latter. Azerbaijan Airlines holds monopoly in the market of passenger transportation. Cargo transportation market is operated by Silk Way Limited Ltd.: 3.0

- 1.3.2. Ancillary businesses (storage, aircraft servicing, ground handling) are private businesses. Cooperation between them and Azerbaijan Airlines is based on tendering procedures: 3.0.

- 1.3.3. There is no autonomy at the regional level as all the airports form a part of Azerbaijan Airlines. There are no competitive regional natural monopolies in the sector: 1.0.

2. Tariff reform

2.1. Tariff structure

- 2.1.1. Tariffs for domestic passenger air transportation are regulated by the Tariff Council. Tariffs for international passenger transportation are set independently by Azerbaijan Airlines. Tariffs for cargo transportation are market-based: 3.0.

- 2.1.2. Tariffs for passenger air transportation do not cover full costs. Costs of passenger air transportation exceed revenues¹³: 2.5.

- 2.1.3. The prices of potentially competitive companies (passenger transportation) do not cover full costs, while the prices for cargo transportation do: 2.

2.2. Payments

- 2.2.1. There is virtually no indebtedness between departments within Azerbaijan Airlines: 3.5.

- 2.2.2. Consumers make full payments for cargo and passenger air transportation, except for the transportation on the route Baku – Nakhichevan Autonomous Republic in connection with the blockade arising from the Armenian-Azerbaijani conflict. The flights Baku – Nakhichevan – Baku are subsidized by the state: 3.5.

- 2.2.3. There is no indebtedness of the budget and budgetary organizations: 4.

2.3. Budget support

¹³ As per the data provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

- 2.3.1. There are some insignificant subsidies for domestic lines, and also for the transportation on the route Baku – Nakhichevan Autonomous Republic in connection with the blockade arising from the Armenian-Azerbaijani conflict. The flights Baku – Nakhichevan – Baku are subsidized by the state: 3.
 - 2.3.2. Subsidies are directed to the service provider, i.e. Azerbaijan Airlines. They are transparent and included in the budget: 3.
- 3. Regulatory and institutional development**
- 3.1. Effective regulatory institutions**
- 3.1.1. The President of Azerbaijan Airlines is appointed under the Ordinance of the President of the Republic of Azerbaijan: 1.0.
 - 3.1.2. The CJSC “Azerbaijan Airlines” is the state-owned enterprise though operating in the form of a closed joint-stock company: 2.0.
 - 3.1.3. The rules for operation of the air transportation sector are stipulated by the legislation. The Law on Aviation in Azerbaijan, for example, determines government functions in the aviation, and it specifies that airports and airfields may be held both in state and private ownership. However, the rules for doing business and tasks of public authorities are not stipulated clearly enough (for example, as to what can be held in exclusive ownership of the state, and what can belong to the private sector), including the way how private operators can get access to the sector: 2.5.
- 3.2. Access regulation.** Private operators have an open access to the transportation market. However, it is not explicitly regulated by the legislation: 2.5.

MARITIME TRANSPORT, PORT

1.1. Ownership

- 1.1.1. Azerbaijan State Caspian Shipping Company and Baku International Sea Port are state owned companies that have not been incorporated as joint-stock companies: 1.0.
- 1.1.2. Potentially competitive companies enter the structure of the natural monopoly and have public assets. The oil terminal is leased to a private company: 2.0.
- 1.1.3. Maintenance of infrastructure, ship repair and other related departments are predominantly state-owned enterprises. Construction at the port is carried out by private enterprises: 2.0.

1.2. Operation

1.2.1. Azerbaijan State Caspian Shipping Company and Baku International Sea Port operate as independent state-owned companies. They report to the Cabinet of Ministers: 1.3.

1.2.2. The companies operate with a focus on business goals: 3.0.

1.2.3. There is insignificant participation of the private sector in provision of services in the sector: 1.5

1.3. Organizational structure

1.3.1. There is no division between the natural monopoly and potentially competitive companies. All services, including those alongside a vessel, are provided by units of the natural monopoly. Baku International Sea Port operates as a service port: 1.0.

1.3.2. Ancillary businesses (repair services) are organizationally and economical separated, for example, repair and vessel maintenance services are provided by the separate Caspian Ship Repair Company (“Kaspmorsudremont”), which, however, is a part of Azerbaijan State Caspian Shipping Company: 2.5.

2. Tariff reform

2.1. Tariff structure

2.1.1. Tariffs for cargo transportation are set on a cost-recovery basis: 4.0.

2.1.2. The tariffs for cargo transportation cover the costs, while those for passenger transportation do not¹⁴: 3.0.

2.1.3. Total revenues of the enterprises within Azerbaijan State Caspian Shipping Company and Baku International Sea Port cover costs, although some costs (passenger transportation) are not fully covered.¹⁵ In general, the pricing system is based on the “cost plus” approach: 2.5.

2.2. Payments

2.2.1. There is no intra-industry indebtedness: 3.5.

2.2.2. There is no indebtedness of final consumers: 4.

2.2.3. There is no indebtedness of the budget and budgetary organizations: 4.

2.3. Budget support

2.3.1. There are no privileged tariffs: 4.0.

2.3.2. Price subsidies to consumers should not be compensated from the budget: -

¹⁴ As per the data provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

¹⁵ As per the data provided in Azerbaijan Transport Statistical Yearbook, State Statistical Committee of the Republic of Azerbaijan. Baku, 2011.

3. Regulatory and institutional development

3.1. Effective regulatory institutions

- 3.1.1. The top management (General Director of the Baku International Sea Port and Head of the Azerbaijan State Caspian Shipping Company) are appointed by the Cabinet of Ministers and President: 1.0.
- 3.1.2. The Azerbaijan State Caspian Shipping Company and Baku International Sea Port operate as state departments. The State Maritime Administration acts as a regulator: 1.0.
- 3.1.3. The Shipping Code regulates a legal framework for commercial shipping in Azerbaijan but it does not stipulate rules for doing business (for example, what may be in the exclusive ownership of the state, and what may belong to the private sector) and the tasks of public authorities in ports: 2.0.

Table 7. Infrastructure Reform Indices

	Indicator	Railways	Road transport and roads	Air transport and airports	Maritime transport and ports
		2010/2011	2010/2011	2010/2011	2010/2011
1.	Commercialization and privatization	2.1	2.5	2.4	1.8
<i>1.1</i>	<i>Ownership</i>	<i>2.0</i>	<i>2.4</i>	<i>2.5</i>	<i>1.7</i>
1.1.1	Natural monopoly	2.0	1.0	2.0	1.0
1.1.2	Potentially competitive businesses	2.5	3.8	2.5	2.0
1.1.3	Ancillary businesses	1.5	2.5	3.0	2.0
<i>1.2</i>	<i>Operation</i>	<i>2.5</i>	<i>2.3</i>	<i>2.5</i>	<i>1.9</i>
1.2.1	Natural monopoly	2.5	2.5	2.0	1.3
1.2.2	Natural monopoly planning and investment decisions	2.5	1.3	2.5	3.0
1.2.3	Private sector participation in service contracts	2.5	3.0	3.0	1.5
<i>1.3</i>	<i>Organizational structure</i>	<i>1.8</i>	<i>2.8</i>	<i>2.3</i>	<i>1.8</i>
1.3.1	Separation of natural monopoly and potentially competitive businesses	1.0	3.0	3.0	1.0
1.3.2	Separation of ancillary businesses	2.5	4.0	3.0	2.5
1.3.3	Decentralization	1.5	1.5	1.0	-
2.	Tariff reform	2.5	3.5	3.1	3.7
<i>2.1</i>	<i>Structure of tariffs</i>	<i>2.8</i>	<i>3.2</i>	<i>2.5</i>	<i>3.2</i>
2.1.1	Political or the regulator's considerations	3.0	3.5	3.0	4.0

	Indicator	Railways	Road transport and roads	Air transport and air-ports	Maritime transport and ports
		2010/2011	2010/2011	2010/2011	2010/2011
2.1.2	Natural monopoly pricing	3.0	2.5	2.5	3.0
2.1.3	Potentially competitive businesses pricing	2.5	3.5	2.0	2.5
2.2	<i>Payments</i>	3.0	3.2	3.7	3.8
2.2.1	Intra-industry payment ratios	1.5	2.0	3.5	3.5
2.2.2	Final consumers collection ratios	3.5	3.5	3.5	4.0
2.2.3	Budget indebtedness	4.0	4.0	4.0	4.0
2.3	<i>State funding</i>	1.7	4.0	3.0	4.0
2.3.1	Subsidies level	2.0	4.0	3.0	4.0
2.3.2	Subsidies procedure	1.5	-	3.0	-
3.	Regulatory and institutional development	2.4	2.6	2.2	1.2
3.1	<i>Effective regulatory institutions</i>	2.2	2.2	1.8	1.3
3.1.1	Management selection of competitive businesses	2.0	2.0	1.0	1.0
3.1.2	Independence of the natural monopoly regulator, insulation from political influence	2.5	2.0	2.0	1.0
3.1.3	Transparency of regulation	2.0	2.5	2.5	2.0
3.2	<i>Access regulation</i>	2.5	3.0	2.5	1.0
	Aggregated Indicator	2.33	2.86	2.57	2.23
	EBRD Indicator	2.3	2.3	-	-

Source: EBRD (2011). Crises and Transition: People's Perspective. Transition Report, 2011; own estimates.

The results of this evaluation show that Azerbaijan has made progress in transport sector reforms: reforms in the railways have been initiated, Azerbaijan Railways has become a joint stock company with 100% state ownership; the enterprises of social infrastructure have been separated from Azerbaijan Railways; both cargo and passenger road transportation has become open for competition, the company providing maintenance and operation of highways has been incorporated as a joint-stock company (JSC "Azeryolservis"); and the participation of the private sector in both direct transportation services and related services has increased.

The progress made in reforming the transport sector has been largely achieved through the reform of tariff policy and support of the payment discipline. However, it is necessary to give greater impetus to areas such as commercialization and privatization, as well as regulatory and institutional changes. Our assessment of progress in implementing reforms in railway transport correspond with the esti-

mates of the European Bank for Reconstruction and Development, while for the road transport and roads they are above the EBRD indices (see Table 2) due to more detailed parameters used to derive a quantitative measure of the reform index. Nevertheless, our indices and EBRD indices are not contradictory, despite some differences in the estimates.

EBRD does not conduct research on the progress in reforming air and maritime transport though our estimates indicate the need for institutional changes and greater emphasis on commercialization of these two sub-sectors.

In general, it is necessary to implement more consistent reforms in areas such as corporatization and privatization, encouraging competition, improving efficiency of investment, etc. An important challenge for the transport sector in Azerbaijan is to promote foreign direct investments and private domestic investors, which, however, would require some changes in legislation to make adjustments in the sector's "rules of game".

3.3. Reform areas

3.3.1. Railways

Reforms in the railway sector can be further implemented based on the following steps.

- The government should legally define the requirements for the railway transport operation. It is necessary to adopt a law on railways, i.e. to build a legislative framework for reforming and promotion of the private sector participation in service industries. The law should also specify the relationship between the government, the operators of the rolling stock (which may be private companies), carriers (especially, if it provides that they may be private companies) and owners of the infrastructure. Moreover, it is important to note that private companies may be allowed to operate in the passenger transportation sector, which is traditionally considered as a non-profit sector. International experience shows that private carriers can provide public services of enhanced comfort in this segment.
- In order to improve efficiency of the railways, to ensure greater transparency and better management, as well as to strengthen the international competitiveness of Azerbaijan Railways in the segment of international transportation, it seems necessary to establish a more complete and comprehensive cost ac-

counting rules within the Azerbaijan Railways. For this purpose, as the first step it is necessary to divide the economic and financial activities of the sub-sector and create internal business structures within the Azerbaijan Railways (operation and maintenance of infrastructure, transportation of passengers and, separately, cargo transportation). In addition, the Azerbaijan Railways, as a legal entity, should keep separate accounts of different activities, which will provide a clear picture of the profitability of each of the activities.

- Based on the above, it is recommended for the Infrastructure Department of the Azerbaijan Railways to have a separate balance sheet (without transforming into a legal entity, and remaining a structural unit of Azerbaijan Railways). This will allow to record more precise costs of rail infrastructure and determine the share of expenditures on infrastructure services in tariffs for cargo and passenger transportation, and to control operating costs. In future, it will help to regulate the access of private transport and shipping companies to the railway market and make respective estimates.
 - The Department of Cargo and Passenger Transportation should be divided into two separate departments, each with a separate balance sheet (separate accounts in the consolidated system of Azerbaijan Railways), though remaining at the same time structural units of Azerbaijan Railways. Implementation of a comprehensive cost accounting will, firstly, help to clearly identify costs by items and types of transportation, and, secondly, to distinguish between commercially profitable and non-profit services.
 - Implementation of a comprehensive accounting in the structural units of Azerbaijan Railways will require to determine the forms and methods of accounting and uniform methodological principles, as well as to build the necessary data base for calculation of the cost of cargo, passengers, baggage and mail transportation, and goods (works, services) and other activities (for example, such accounting has already been implemented within the Belarusian Railways). In order to establish such an accounting system the Azerbaijan Railways can ask, for example, the World Bank for technical assistance, if necessary.
- Going forward, the next step may be to identify the main areas of activities (operation and maintenance of infrastructure facilities, transportation of passengers and cargo) to be separated into legally independent companies that will remain a part of Azerbaijan Railways.
 - Given that, as the world practice shows, the carriage of passengers is unprofitable, it is necessary to consider the possibility of budget-financed compensation for financial losses incurred by the railways in domestic passenger trans-

portation. This has already been done in practice for the transportation on the route Baku – Nakhichevan Autonomous Republic in connection with the blockade arising from the Armenian-Azerbaijani conflict. The government, in this case, provides budget-financed compensation for the difference between the prices and actual costs of passenger air transportation on the route Baku – Nakhichevan – Baku. To compensate losses incurred by Azerbaijan Railways in domestic passenger transportation, the government (represented, for example, by the Ministry of Transport) and Azerbaijan Railways can enter into contract for domestic passenger transportation services. It will help fully eliminate cross subsidies and improve the performance of the Azerbaijan Railways.

- It is also necessary to ensure cost coverage by the tariffs for services that can be commercially profitable (cargo transportation).
- It is recommended to continue the efforts undertaken to optimize the railway employment, as the average number of staff per 1 km of railways, which in 2010 amounted to 6.7, is very high by international standards (for example, in the EU it ranges from 5 in Slovakia to 0.71 in Sweden), and it negatively affects the level of labor productivity.
- Based on the international experience, it is expedient to encourage the creation of competition in various areas, such as in car repairs, both through the sale of railway depots to private companies, and by dividing the existing depots into a few companies, for example, two competing companies.

3.3.2. Road transport and roads

Reforms in this sector should be primarily focused on sustainable development of the road network and improvement of road construction financing. In this regard, two main areas for reform can be identified:

- Development of the market environment in road maintenance;
- Engagement of the private sector in road construction and, further, in road maintenance through public-private partnership arrangements, which will facilitate investment inflow to the road sector.

For larger private sector participation in road maintenance it is required to indicate the possibility of private sector participation in the construction, maintenance and repair of roads at the legislative level. For this purpose:

- It would be expedient to make amendments to the Law on Highways regarding the possibility of both holding roads in private ownership and participation of the private sector in their construction and maintenance;

- It would also be worthwhile to adopt the law on concessions in Azerbaijan to build a legal framework for the development of public-private partnerships (not limited to this particular subsector).

The following can be suggested as a measure to stimulate the development of the market environment in the area of road maintenance:

- to start implementing a gradual transition to a system of contracts for road maintenance between the JSC “Azeryolservis” and commercial companies both public and private. Contracts can be signed for a period of five years on the tender basis;
- to consider the possibility of implementation of public-private partnership arrangements in road maintenance services, for example, based on the *Build – Operate – Transfer* approach.
- it is also advisable to consider the possibility of privatization of asphalt and gravel producers, which will enhance market orientation of the respective enterprises.

Engaging the private sector into road construction should also entail the following:

- financial participation of the private sector in construction through public-private partnership arrangements, for example, based on the *Build – Reconstruct – Operate – Transfer* approach.
- granting permissions to private enterprises for construction of toll roads in Azerbaijan and their further transfer to the private sector for maintenance and management.

3.3.3. Air transport and airports

Reforms in the air transport should involve, among others, more active participation of the private sector in this subsector. However, this process requires changes in respective regulations, for example, amending the Air Code of the Republic of Azerbaijan. The current Code provides only that the State Civil Aviation Management Agency is the primary body in charge of civil aircrafts, civil airports and air equipment.¹⁶ Thus, the Air Code should clearly define, what can be:

- both in state and private ownership (for example, aircraft, airfields, airports, and other technical means and other facilities designed to provide for the aircraft navigation).

¹⁶ <http://www.aerohelp.ru/legislation/document/1366>.

- in state ownership only (for example, facilities of integrated air traffic management systems).

It is also crucial for this subsector to have other respective legislation, for example, the law on concessions, on public-private partnership, etc.

To improve the level of commercialization of the Azerbaijan Airlines (AZAL), incorporation of the company as a public joint-stock company should be considered. This will allow in future, if deemed appropriate, to attract foreign investors to the company, for example, foreign air carriers, which will facilitate:

- additional inflow of investments,
- deepening of cooperation with foreign airlines,
- expanding the range of services, including low-cost transportation,
- growth of transit transportation,
- adjusting the AZAL development strategy to increasing international competition in this subsector.

The development of air transportation requires restructuring of airport services. As international practice suggests, a quite widespread and well-established method of disposition of airport assets is transferring them to the airport operator under lease or concession agreements. To facilitate investment inflow to the Baku Heydar Aliyev International Airport and strengthen the commercial orientation of its activities:

- the airport can be incorporated as a joint-stock company. It will help implement projects based on public-private partnerships which, in general, will facilitate meeting international standards in this subsector;
- establishing a special economic zone within the Baku International Airport which will allow to increase its logistic and transit capacities in respect to cargo transportation and develop such services as aircraft maintenance and repair.

3.3.4. Maritime transport and ports

Given that in the coming years Baku International Sea Port is planned to be moved from the center of Baku to Alat, where a new modern port complex will be constructed, it is necessary to change the its business model. Under the current state management model it operates as a service port. The port authorities not only own the land and assets of the port but port operations (stevedoring, warehousing, etc.) are also performed directly by the port's structural units. Taking into account

international practice, it seems appropriate to move from the model of a service port to the model of a tool port¹⁷, and then a landlord port.¹⁸

For this purpose, it is necessary to build a legal framework for reforming port activities in the Republic of Azerbaijan. Accordingly, it is required to either introduce changes into the Shipping Code (in its part related to ports) or adopt a separate law on ports, which would specify the following:

- the possibility of competition development by engaging business entities of all forms of ownership in port activities;
- what is held in public ownership in the port, for example, water area of ports, land of ports, infrastructure (e.g., piers, roads, etc.);
- what may be held in private ownership in the port, for example, port superstructure, including cargo handling equipment, pick-ups, warehouses, and etc.;
- forms of relationship of private companies with the port authority, for example, on a competitive basis through tenders, with the subsequent conclusion of the contract;
- possibly, the terms of such contracts. International experience demonstrates that, as a rule, contracts are concluded for a long period of time (for example, for 99 years in Estonia), especially when it comes to contracts for the operational management of terminals;
- that the lease agreements for the port area may be signed based on the value of a square meter, including the costs to build up port infrastructure.

Port terminals may also be transferred into management of terminal operators under long-term contracts and concession agreements. This will help attract new investments in development of terminals, using models of public-private partnerships which are widely used in modern ports, especially when it comes to terminals for handling containerized cargo.

- It should be noted that change in the operation model of the Baku International Port is essential in terms of improving its competitiveness in container trans-

¹⁷ According to this model, port authorities own infrastructure and superstructure of the port, including equipment for cargo handling, quay cranes, pick-ups, etc. All major work is carried out by and with the equipment of port authorities, while the private sector (mainly private stevedoring companies) is allowed to perform operations at the ship.

¹⁸ According to this model, port authorities function both as a regulator of port's activities and as a port's owner. The port does not directly conduct operations, but leases the port infrastructure to independent companies on a competitive basis (through tendering, etc.), who conduct operations in the port. The responsibilities of port authorities as the owner include a long-term port development and maintenance of the basic port infrastructure, such as access roads and piers. In their turn, private stevedoring companies own and maintain their own superstructure, purchase and install equipment and hire workers.

portation services, which are the most technologically advanced and profitable type of transport business. Currently, there is increased competition among ports, including competition in container transshipment services in the Black Sea and Caspian region, so Azerbaijan needs to make serious efforts (including efforts in simplification of customs procedures) to attract container shipments, create conditions for the creation and effective operation of stevedoring companies.