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PROJECT PERFORMANCE ASSESSMENT REPORT

BULGARIA

**RAILWAY REHABILITATION PROJECT
(CREDIT 3922-BUL)**

May 31, 2005

*Sector, Thematic and Global Evaluation Group
Operations Evaluation Department*

Currency Equivalents (annual averages)

Currency Unit = Bulgarian Lev (BGL) The currency was revalued on June 17, 2000, but the name of the currency was unchanged.

1995	US\$1.00	BGL 153.77
1996	US\$1.00	BGL1,634.47
1997	US\$1.00	BGL1,761.70
1998	US\$1.00	BGL1,844.19
1999	US\$1.00	BGL1,905.80
2000	US\$1.00	BGL 2.03
2001	US\$1.00	BGL 2.17
2002	US\$1.00	BGL 2.08

Abbreviations and Acronyms

BDZ	Bulgarian State Railway
BDZ EAD	Bulgarian State Railways, Operating Company
CAS	Country Assistance Strategy
CEE	Central and East European Region
EBRD	European Bank for Reconstruction and Development
ECLAT	Export Credit Loan Agreement
ERR	Economic Rate of Return
EU-PHARE	European Union – Assistance Program for Eastern Europe
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion Report
MIS	Management Information System
MOTC	Ministry of Transport and Communications
NATO	North Atlantic Treaty Organization
NRIC	National Railway Infrastructure Company
OED	Operations Evaluation Department
PPAR	Project Performance Assessment Report
PSO	Public Service Obligation
RAP	Restructuring Action Plan
SAR	Staff Appraisal Report

Fiscal Year

Government: January 1 – December 31

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OED Mission: Enhancing development effectiveness through excellence and independence in evaluation.

About this Report

The Operations Evaluation Department assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, OED annually assesses about 25 percent of the Bank's lending operations. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and fieldwork conducted by OED. To prepare PPARs, OED staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader OED studies.

Each PPAR is subject to a peer review process and OED management approval. Once cleared internally, the PPAR is reviewed by the responsible Bank department and amended as necessary. The completed PPAR is then sent to the borrower for review; the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the OED Rating System

The time-tested evaluation methods used by OED are suited to the broad range of the World Bank's work. The methods offer both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. OED evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (more information is available on the OED website: <http://worldbank.org/oed/eta-mainpage.html>).

Relevance of Objectives: The extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). *Possible ratings:* High, Substantial, Modest, Negligible.

Efficacy: The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance. *Possible ratings:* High, Substantial, Modest, Negligible.

Efficiency: The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. *Possible ratings:* High, Substantial, Modest, Negligible. This rating is not generally applied to adjustment operations.

Sustainability: The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

Institutional Development Impact: The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

Outcome: The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development objectives and sustainability. *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Contents

Principal Ratings.....	vi
Key Staff Responsible	vi
Preface.....	vii
Summary.....	ix
1. Background	1
2. The Project	2
3. Results	6
4. Ratings	10
5. Conclusions and Lessons	13
Annex A. Basic Data Sheet.....	16
Annex B Borrower Comments.....	18

Principal Ratings

	<i>ICR*</i>	<i>ES*</i>	<i>PPAR</i>
Outcome	Satisfactory	Moderately satisfactory	Moderately satisfactory
Sustainability	Likely	Non-evaluable	Non-evaluable
Institutional Development Impact	Substantial	Substantial	Substantial
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible operational division of the Bank. The Evaluation Summary (ES) is an intermediate OED product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
Appraisal	Jacques Yenny	Ricardo Halperin	Rachel Lomax
Completion	Jean-Charles Crochet	Hossein Razavi	Andrew N. Vorkink

Preface

This is the Project Performance Assessment Report (PPAR) prepared by OED for the **Railway Rehabilitation** Project (Loan 3922) for Bulgaria. The original amount of the loan was US\$95 million and was approved on July 6, 1995. The borrower was the Bulgarian State Railways (BDZ), and the loan was guaranteed by the Government of Bulgaria. The effective date of the loan was March 1, 1996, and the loan was closed on June 30, 2002, with US\$80 million of the funds disbursed. The project closing was delayed for two years due primarily to delays in providing counterpart funding for the track rehabilitation. The unused portion of the loan resulted from the failure to implement the Management Information System (MIS).

The project was chosen for assessment because it was the first Bank loan for the transport sector in Bulgaria and exemplifies the learning experiences gained from the railway restructuring process during a period of significant transformation of state enterprises and modernization of physical infrastructure. The reasons for the failure of the MIS implementation are also identified to provide lessons for future projects.

OED prepared this report based on an examination of the relevant Staff Appraisal Report (SAR), Implementation Completion Report (ICR), legal agreements, project files and archives, as well as other relevant reports, memoranda, and working papers. Discussions were also held with a number of existing and former Bank staff in Washington DC, as well as in Bulgaria. An OED mission visited Bulgaria in February 2005, conducted site visits, and discussed both the project and the effectiveness of Bank assistance with government officials and stakeholders. Their kind assistance is greatly appreciated.

The project reviewed in this report had nine components, three of which were financed by the Bank (comprising 56 percent of total foreign exchange costs) and included track renewal and maintenance, track maintenance machinery, the MIS and training. The other six components were co-financed by EBRD (US\$45 million), EU-PHARE (US\$18 million), and through export credits arranged by EBRD (US\$12 million). Those components included signaling and telecommunications, track maintenance machines and spares, traction and rolling stock maintenance, rehabilitation of coaches, technical assistance and a locomotive driver simulator.

Following standard OED procedures, copies of the PPAR were sent to relevant government officials and agencies for their comments and are attached as Annex B.

Summary

This is the Project Performance Assessment Report (PPAR) for the Bulgarian **Railway Rehabilitation** project approved in 1995. The railway was desperately in need of reform as the economic recession that affected Bulgaria during the early 1990s had a particularly severe impact on the Bulgarian State Railways (BDZ). Traffic had fallen dramatically and the BDZ was ill-prepared to cope with the newly emerging competitive environment and needed to be more responsive to its customers.

The Railway Rehabilitation Project was funded jointly by the Bank (US\$95 million) and EBRD (US\$45 million); EU-PHARE provided US\$18 million and export credits of US\$12 million were also arranged by the EBRD. The Bank project funded track renewal and rehabilitation, purchase of some track maintenance machinery, installation of a Management Information System (MIS), and training. On March 1, 1996 the Bank loan became effective and closed on June 30, 2002. Due to the failure to fully implement the MIS, a portion of the Bank loan (about US\$15 million) was cancelled and US\$80 million was disbursed.

The objective of the project was to support and deepen the restructuring process that had already been started by the railway organization and government; it also supported a set of policy measures that were embodied in the new Railway Law, the Restructuring Action Plan (RAP), and the Performance Contracts between the operating companies and the government. The project was fully consistent with the Bank's 1993 Country Assistance Strategy (CAS), which included as its main goals macroeconomic stabilization, transformation of state enterprises, and modernization of Bulgaria's physical infrastructure.

The outcome of the project is rated **moderately satisfactory**. The first objective to support and deepen the restructuring process was substantially achieved, but the second objective (allowing BDZ to operate commercially) was only partially achieved. Track renewal was substantially completed by the end of the project, some important steps toward institutional and regulatory reform were taken, and the Contract Plan was implemented. The primary deficiencies in the project were the failure to implement the MIS system, the lack of a costing system that would allow the railway to operate in accordance with commercial principles, the slow response by the government to rationalize the network, and lack of a clear definition of the railway lines and services the government intends to subsidize. The institutional development impact is rated **substantial**. The project has led to significant institutional changes supporting the development of a legal and legislative framework for the future viability of the rail sector in Bulgaria. The Railway Law that was enacted in 2000 provided for the establishment of the separation of the infrastructure and operating organizations of the BDZ. A Contract Plan was also established between the government and the BDZ operating company.

There is some doubt that the future benefits of the project will be fully realized, which could jeopardize the sustainability of the project. This is evident from the lack of full government commitment to date to giving BDZ autonomy in the setting of tariffs, the

failure to close uneconomic branch lines, and to adjust service levels to match demand. There is continued protection of the railway, which is not conducive to establishing a commercial and competitive environment and is detrimental to the sustainability of the project's benefits. As Bulgaria moves closer to accession of the EU, however, there will be greatly increased pressure to move the railway reform process forward at a much more rapid rate. Based on the information available and interviews undertaken by the PPAR mission, the sustainability of the project's benefits would be rated unlikely at this time if it were not for the urgent accession requirements. The position is therefore expected to improve rapidly as a result of this pressure, and bold actions are anticipated by the government and BDZ in the near future. For this reason alone sustainability is rated **non-evaluable**.

Bank and borrower performance are both rated **satisfactory**. There were, however, some areas where closer monitoring of implementation on the part of the Bank could have led to a more successful project. This is particularly true regarding the implementation of the MIS. Closer monitoring by the Bank during the period of dispute between the contractor and the BDZ, and direct intervention with technical assistance might have moved the MIS implementation forward. The borrower also caused some delay to the completion of the project by failure to provide counterpart financing in time for the track rehabilitation component to be fully completed. One area of weakness has been the lack of autonomy of the railway operating company. All decisions regarding tariff changes, line abandonment, and adjustment of train services are effectively made by the government, through the Ministry of Transport. This critical element of transport policy has so far kept the railway from becoming a commercially oriented organization. The following lessons may be drawn from the experience of this project:

- *Rationalizing subsidy support and introducing appropriate traffic costing models* are important pre-requisites to restoring the long-term financial health of state-owned railway companies and moving them towards commercial operation;
- It is critical to the success of a complex undertaking such as the installation of an integrated Management Information System that *sufficient technical supervision and support* be made available to assist with resolving problems as they arise;
- An integrated Management Information System may be too complex an undertaking to implement as a single package in a transitioning economy; consideration should be given to a *phased design approach*;
- *Public Service Obligation Subsidy* should be for specific services that the government considers socially necessary; such social services should be transparent, explicitly defined and fully compensated as part of a Contract Plan.

Ajay Chhibber
Acting Director-General
Operations Evaluation

1. Background

1.1 Bulgaria is located in the Central and East European Region (CEE) and has a land area of 110,900 square kilometers and a population of 7.8 million; per capita income was estimated to be US\$2,130 in 2003. Bulgaria's northern border is with Romania; Macedonia and Serbia lie to the west; Greece and Turkey to the south; and the Black Sea is to the east of the country. During the communist era, up until the 1990, Bulgaria's economy was based mainly on the production of machinery, electronics, and chemicals.

1.2 Dominated by the communist party since 1946, Bulgaria held its first multi-party elections in 1990 and began a transition toward political democracy. The socialist party held power until the serious economic downturn in 1996, which led to the fall of the government. Since that time, the government's commitment to market-based economic reforms has strengthened; Bulgaria joined NATO in 2004 and has applied for accession to the European Union.

1.3 The Bulgarian economy is now in transition from central planning to a free market system and increased competition. Investment in the transport sector during the 1980s averaged about US\$500 million annually, with the railways' share of this investment falling from 35 percent in 1980 to 25 percent in 1989. In the same period, investment in the road sector increased from 50 percent to over 60 percent. During the first half of the 1990s, transport investment effectively ceased, with only US\$24 million being spent, primarily for urgent repairs and some periodic maintenance; no new investments were made during that period.

1.4 Bulgaria has 4,294 kilometers of railway, more than 50 percent of which are electrified. While most centrally planned economies were highly dependent upon railways, Bulgaria was less so. In 1989, rail accounted for only about 45 percent of freight traffic, in terms of ton-kilometers. The change of government in most of the Eastern European countries during 1990s seriously disrupted freight traffic patterns and significantly reduced rail traffic. By 1992, freight traffic throughout the CEE had fallen to a level 57 percent less than during 1989, with passenger traffic on the Bulgarian State Railway (BDZ) falling by 36 percent during the same period. By the mid 1990s, the road share of Bulgaria's freight traffic was about 50 percent – the highest in the CEE countries, though much lower than in Western European countries.

1.5 This new economic environment required the railway system to reduce staff, focus on its core business and separate ancillary services, and to become service- and customer-oriented to ensure survival in the new competitive environment. The Railway Rehabilitation Project (Cr. 3922) was designed to assist in the reform of the system.

2. The Project

Project Objectives.

2.1 The project had two objectives. The first objective was to support and deepen the restructuring process already started by the railways and the government. The second objective was to support policy measures embodied in the new Railway Law, the Restructuring Action Plan, and the Contract Plan between the BDZ and the government that allowed the BDZ to operate commercially, and for the government to compensate the BDZ for providing socially important but unprofitable services by identifying the railway's Public Service Obligation (PSO).

2.2 The objectives and components of the IBRD-funded portion of the project are summarized in Table 2. The objectives were quite general. In addition to the restructuring of the railway, and supporting the reforms previously initiated within the government, there were several specific infrastructure improvement projects that were needed to support these policy measures. The components of the project comprise the specific improvements to the infrastructure of the railway that would enable the railway's management to meet the project objectives.

2.3 The Bank loan was in the amount of US\$95 million (56 percent of the total project cost), though only US\$80 million was disbursed. An additional US\$75 million (44 percent) in co-financing was made available from EBRD (US\$45 million), export credits (ECLAT¹ US\$12 million), and EU-PHARE (US\$18 million). The major reason for the shortfall in dispersal of the IBRD funds was the failure to successfully conclude the implementation of the Management Information System (MIS). There was also a delay in the implementation of the track renewal and maintenance due to a shortage of counterpart funds from the government. A grant from the EU to BDZ in the amount of €20 million was necessary to provide this counterpart funding.

Table 2: Railway Rehabilitation in Bulgaria, IBRD Components and Costs

<i>Components</i>	<i>Costs (US\$ millions)</i>	
	<i>Appraisal</i>	<i>Actual</i>
Track renewal and maintenance	50.20	47.59
Track maintenance machines	29.90	24.10
Management Information System (MIS)	13.90	8.09
Training of BDZ management	1.00	0.67
Total cost	95.0	80.45

1. Export Credit Loan Agreement arranged by EBRD; this amount funded a portion of the track maintenance machinery as well as catenary maintenance and inspection vehicles.

Project Components

2.4 The track rehabilitation program and provision of track maintenance machinery, though delayed, was about 84 percent completed by the closure of the project. At the end of 2002 a total of 336 kilometers of track had been rehabilitated, compared with the 400 kilometers planned. According to documents of the National Railway Infrastructure Company (NRIC), a total of 427 kilometers of track will be rehabilitated by the end of 2005, and the rehabilitation work is continuing using NRIC funds. Details of the description and location of each section rehabilitated were perused from NRIC records. The PPAR mission visited selected rehabilitated sections and confirmed that the work was accomplished and train speeds have increased as projected. In addition to the track and catenary maintenance equipment a welding workshop was also supplied under the project and all are still in use by NRIC. The rehabilitation work significantly increased the speed of the trains. Typically before the project, the track sections improved carried speed restrictions of between 60 and 70 kilometers per hour. After the work these speed restrictions were removed and speeds up to 120 kilometers per hour became possible².

2.5 All rehabilitation work complied with Bulgarian environmental provisions. Included in this work was protection for embankments and improvement of drainage along the line. This is an important issue as many rail lines in the region have severe problems due to failing embankments and poor drainage. Such protection works should be incorporated in all future track rehabilitation projects, particularly in mountainous regions or areas subject to flooding.

2.6 The second project component funded by the Bank was the implementation of the MIS. Issues regarding the failure to fully implement this item are discussed in the next section.

2.7 In addition, the Bank also funded training for BDZ management staff. The training programs focused on planning and budgeting, marketing, human resources development, financial management, and accounting. Three other training programs were implemented, with participants from Bulgaria and overseas. Topics included international accounting standards, internal control, and audit procedures.

Implementation Issues

Management Information System

2.8 Clearly the most serious difficulty with the execution of the project was the failure to implement the MIS, which was intended to provide management with a modern operational and decision support system. Although the contract for the data network upgrade element was completed, the three applications for the passenger information system, freight operation system, and the financial management system were not

2.The limit of 120 kilometers per hour is due to the rolling stock condition, (most passenger coaches are not equipped to operate at speeds in excess of 120 kilometers per hour); with improved rolling stock, speeds of 130-140 kilometers per hour would be possible.

implemented. The usefulness of the completed data network is limited, though it can still be made compatible with any future MIS applications.

2.9 The MIS implementation failed to yield substantial benefits to BDZ management. The contractor, after receiving a prepayment in the amount of US\$1.4 million, reported to BDZ that the total cost of their services would amount to more than double the original estimated amount. The approach was a complete departure from existing software in BDZ and was not linked to ongoing changes in management processes³. Disagreement and tension increased between the contractor and BDZ and little further progress was made in implementation. Some computer terminals had already been delivered by early 2005, but BDZ and the contractor were still not in agreement about payments due to BDZ. The contractor claims that the computer terminals already delivered should have been a credit against the US\$1.4 million prepayment received from BDZ. The BDZ claims these terminals, now four years old, are obsolete for their intended use, and the value against the prepayment is effectively zero.

2.10 In January 2001 the first of two workshops in Sofia was held to try and resolve some issues between the BDZ and the contractors implementing the MIS. A work plan, agreed to by both parties, was the primary output of the first workshop. The second workshop was held in early March 2001 and although some of the actions identified in January had been completed, some serious issues remained unresolved and the workshop ended without an agreement being reached. Since these initial workshops, no further progress has been made toward resolving differences. By December 2001, all progress had been suspended on all three MIS projects (passenger, freight, and financial management). By April 2002, the consultant's staff had been withdrawn from Sofia and the Minister of Transport held a press conference in April 2002, formally announcing that the MIS implementation had failed.

2.11 The Bank's technical consultant visited Sofia in April 2002 in an attempt to salvage the situation. However, both the railway and the contractor's positions had solidified by that time and a resolution could not be achieved. A further complication was the imminent reorganization of the BDZ into two entities, one for infrastructure and one for operations. This event added uncertainty to any further effort to find an amicable resolution.

2.12 With the benefit of hindsight, the Bank's intervention into the implementation process of the MIS should have begun well before January 2001. In retrospect, it was probably unrealistic to expect that a turnkey project could be implemented without significant difficulties. A more realistic approach, for a country undergoing an enormous transition, might have been to implement the system in stages, with each identified module being completed separately.

3. The ICR comments that "the radical nature of the changes, the lack of a trial and error process, the speed of decision-making made necessary by the contract implementation process.....were such that an adversarial relationship was almost unavoidable".

2.13 With the failure of the MIS implementation, the BDZ has only a limited management information system. Information that is available is prepared and disseminated manually. As of early 2005, the BDZ management was putting together individual modules of a MIS (not an integrated system) using own resources. Two modules now under development include a passenger train reservation system (including only 9 or 10 major stations initially) and a freight consignment note module. Eventually, online purchase of passenger tickets is envisaged as these systems are more fully developed.⁴

Compliance with International Accounting Standards

2.14 Based on discussions with the management of BDZ, as well as an examination of recent audit reports of BDZ, the compliance of the accounts with international standards is apparently not yet complete. KPMG performs the annual audit of the accounts of both the NRIC and the BDZ EAD. In their audit report of the accounts for 2003 for each company certain problems were highlighted. In the case of NRIC they related to the deterioration of liquidity and in the case of BDZ EAD to the validity of management's assumptions regarding the evaluation of assets. Addressing the shortcomings to ensure full compliance with international accounting standards may require additional assistance.

Effectiveness of Co-financing Arrangements

2.15 According to the project's financing plan, the Bank financed 56 percent of the total foreign exchange costs of the project with the remainder funded by the EBRD, export credits arranged through EBRD, and EU-PHARE. With the cancellation of approximately US\$15 million (€1 million) of the Bank loan, the effective proportion of total project foreign exchange costs borne by the Bank was 52 percent. The components of the project funded by each co-financing organization were complementary and fully supported the objectives of the project. The amounts of the co-financing partners were fully disbursed.

2.16 The EBRD in its Expanded Monitoring Report of September 2001 reported that "the project implementation has been hampered by a number of internal and external factors....the major negative implication is the continuous financial losses of BDZ." The report rated EBRD's portion of the project as "good" for most evaluation criteria, with the exception of "overall client financial performance," which was rated "unsatisfactory." The railway was reported to be in violation of a covenant of the loan with respect to the working ratio. The covenant stipulated that the working ratio should be less than 1; for the BDZ EAD recent operating ratios have been in the range of 1.1 and 1.3. This experience was endorsed by the Bank, which closely monitored the Restructuring Action Plan. The plan had a target ceiling for the working ratio of 1.0 by 1998 and a debt service

4. BDZ management told the PPAR mission that there is a problem with some conductors selling tickets on board and keeping the money. It is anticipated that this system may help alleviate this practice through better information. A more accurate count of passengers and tickets sold should isolate the incidences of these practices.

ratio gradually increasing to 1.0; the reality in the context of a difficult general economic situation was that there was a slight underperformance in the working ration and a significant shortage in the debt service coverage ratio.

Shortfalls in the Provision of Counterpart Funds

2.17 In order to support the track renewal program under the loan, the BDZ (prior to the reorganization and creation of NRIC) was responsible for local counterpart funding for installation works. During the early stages of the project, with over 50 percent of the loan amount expended for track materials, track renewal had not taken place, due to this shortage of counterpart funding. To resolve this problem, the BDZ obtained from EU-PHARE a grant of €20 million.

2.18 Reasons for the shortage of counterpart funding include the financial crisis of 1996/97 and the Yugoslavia crisis, which caused a severe decline in rail traffic, falling values of the Lev, and a resultant financial crisis within BDZ. However, funds were eventually mobilized and 84 percent of the track renewal was implemented by close of the project.

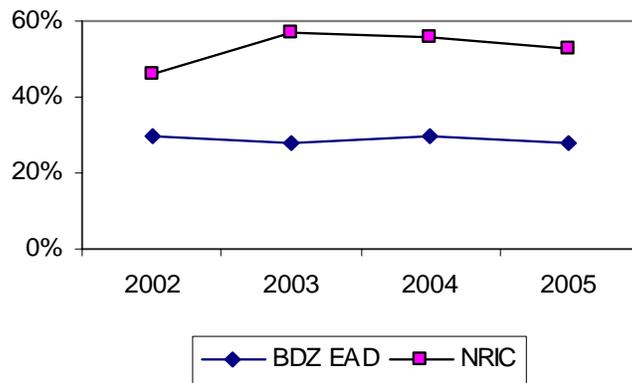
3. Results

Objective 1: Support and deepen the restructuring process which the railways and government had initiated.

3.1 Most of the critical elements of the restructuring process were implemented, including separation of non-core activities from the railway organization, reducing railway staff to enhance operational efficiency, and reducing railway infrastructure consistent with traffic levels.

3.2 Total employment of the single railway company in 1995 was 57,000; staff levels by the end of 2004 were 32,690. Some of the reduction came about when non-core activities were separated and privatized; other reductions were due to attrition. For example, between 1999 and 2000, workshops for undertaking major repairs were privatized, resulting in the reduction of 5,000 BDZ staff. This process continues, with the elimination and/or privatization of staff facilities such as recreation centers and hospitals. The goal of BDZ was to achieve a 20 percent reduction of staff by the end of 2004 compared with 2001. The actual reduction during that period was 17 percent.

3.3 Despite these staff reductions, the labor cost when expressed as a percentage of operating costs has declined only marginally since 2002, as shown in Figure 1.

Figure 1: Labor Cost as % of Operating Cost

3.4 The Railway Regulator (Railway Administration Executive Agency) has been appointed within the Ministry of Transport⁵ and is charged with the responsibility of administering the relationship between the NRIC and BDZ EAD, implementing the performance contracts under the Public Service Obligation to control the government's tariff policy as well as issuing licenses and operating permits to road operators. The Railway Regulator is also responsible for control of tariffs charged for track access by the NRIC. EU directives regarding the legal and institutional structures for railways have been met in Bulgaria as a result of implementing the rehabilitation project. Most non-core activities have been separated from the operating companies. The process of separating the remaining non-core activities continues and additional staff reductions are planned. Open access is available in theory, though no private rail operators have yet been established. The first objective of the project was, to sum up, *substantially achieved*.

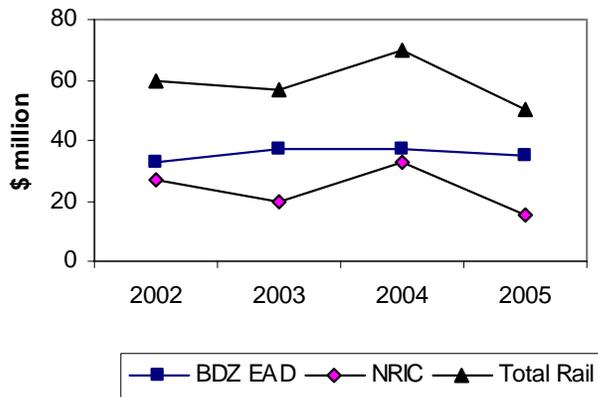
Objective 2: Support policy measures embodied in the new Railway Law, the Restructuring Action Plan, and the Contract Plan between the BDZ and the Government that allowed BDZ to operate commercially and for the Government to compensate the BDZ for providing socially important but unprofitable services.

3.5 The New Railway Law was enacted in November 2000 and amended in October 2002. This law provides for the separation of the infrastructure provision function (NRIC) from the operating entity (BDZ EAD). The link between the two companies is the Track Access Charge, which BDZ EAD pays to NRIC. The Contract Plan was signed in 1996. Subsequently, an analysis of the BDZ cost structure was undertaken and the requirements of the Passenger Service Obligation (PSO) were identified. This analysis led to the new 1999–2003 Contract Plan between the BDZ and the government. PSO subsidy payments for passenger operations have been relatively constant since 2002.

5. This position was established pursuant to Decree no. 167 of June 2001, of the Council of Ministers.

Figure 2 summarizes the total government support for the Bulgarian railways since 2002, showing amounts separately for NRIC and BDZ EAD.

Figure 2: Government Support for Bulgarian Railways



3.6 While in theory, the provision exists in the Contact Plan to reimburse the operator for providing money-losing social passenger services, the amount of subsidy paid is less than the amount required, and the operator has not been able or willing to discontinue trains on unprofitable routes. Passenger tariffs remain under the authority of the government.

3.7 Officials at the Railway Regulator advised the PPAR mission that the railway operating company, as a commercial organization, has considerable autonomy with respect to pricing and the provision of services. However, the operator must consider the social implications of such decisions. These implications include the low incomes of the majority of the traveling public in Bulgaria and the fact that all citizens have a “right to transport,” with the implication that this is a right to rail transport. If this is indeed the position of the Bulgarian government, then such service levels should be fully supported financially, as a part of the PSO payments to the BDZ EAD for social services.⁶

3.8 As part of the existing legislation, if the government fails to provide sufficient PSO subsidies to enable the operator to continue operations, the operator is permitted to abandon services on selected lines. In practice, this has never been done.

3.9 One critical element that is necessary before the railway can be expected to operate on commercial principles is the abandonment of lightly used, uneconomic branch

6.The Railway Regulator also has the authority to issue road service permits to bus operators. There is some element of protection of the railway passenger service inherent in the method used to determine the eligibility of proposed bus routes for issuing of operating authority. For example, the PPAR mission was told that a bus may not operate from a location near the railway station to within 15 minutes of the departure of a train, if the bus and train would traverse the same route. Issuing of such permits is termed “unfair competition” for the railway. In rural areas, if a railway line exists, generally applications for a bus permit would be denied.

lines, or at least to remove from the BDZ the obligation to operate these lines. In an effort to maintain service on these lines, the government has offered the right to use the line free of charge to any private operator (or municipality) that wishes to do so. No organization has, however, taken up this offer and no further action has been taken to relieve BDZ EAD from the obligation to provide service on these lines.

3.10 The government still controls passenger fare levels and the decision as to whether to withdraw services on uneconomic branch lines. In fact, no branch lines have had services discontinued and passenger fares remain at low levels. Losses incurred in providing passenger services continue to rise, while PSO subsidies are declining. Adequate capital funds are not available to rehabilitate the passenger equipment – the condition of which remains an impediment to increasing running speed – making the service non-competitive with road transport.

3.11 The formula for allocating track access charges between freight and passenger operations has been adjusted recently to reflect usage more correctly. Prior to 2004, the total amount of money required for track maintenance by the NRIC was about 150 million leva per year. Approximately 9 million leva (about 6 percent of total track access costs) was charged to the passenger operator, with the remainder charged to freight traffic. The distribution of these costs now is on the order of 50 million leva (33 percent) charged to passenger service, with the remaining 100 million leva charged to freight service.⁷

3.12 The Restructuring Action Plan (RAP) consists of objectives/issues, actions, responsibilities timetable, and achievement for eight separate categories: institutional, organization and management, operational and marketing, infrastructure, traction and rolling stock, human resources, finance, and environment.

3.13 While the Contract Plan has been established, BDZ's autonomy and financial sustainability under the provisions of the PSO have not been fully implemented. Some redundant station tracks have been abandoned but this does not include service reductions or closures of uneconomic branch lines.⁸ The failure to implement the MIS is also a deficiency in the achievement of the RAP. In an attempt to provide BDZ marketing staff with operational costs for services, a Canadian costing model, Oscar, was implemented for a short time but subsequently its use was discontinued. The PPAR mission was not able to verify the robustness of this model, but it is doubtful whether it would be a useful tool for the evaluation of specific services and the development of pricing strategies. It

7. This track access charge allocation can be compared with ton-kilometers – during 2004 on the basis of gross ton-kilometers, passenger service amounted to 42 percent and freight 58 percent of the total. This would indicate that passenger transport is still slightly subsidized by freight transport, but this represents a much more equitable distribution than that which existed in previous years.

8. In a report funded under the project, through Japanese Consultant Trust Fund, *Bulgaria State Railways, Rationalization of Rail Network and Operations, Establishment of PSO Contracts, and Improvements in Marketing*, PADECO, November 2002, there were 28 lines identified encompassing more than 1,300 kilometers of track that were found to be non-viable and were recommended for abandonment, or specific state subsidy support.

can therefore be concluded that the full achievement of the RAP has not been realized. Based on the preceding analysis, the second objective has been *partially achieved*.

4. Ratings

Outcome

4.1 The outcome of the project is rated **moderately satisfactory**. The first objective to support and deepen the restructuring process was substantially achieved, but the second objective allowing BDZ to operate commercially was only partially achieved.

4.2 Track renewal was substantially completed by the end of the project, some important steps toward institutional and regulatory reform were taken and the Contract Plan was implemented. The primary deficiencies in the project were the failure to implement the MIS system - the lack of a costing system that would allow the railway to operate in accordance with commercial principles - the slow response by the government to rationalize the network, and lack of a clear definition of railway lines and services the government intends to subsidize.

4.3 The government has not yet finalized its policy with regard to services and routes that the BDZ is expected to operate. The railway cannot improve its efficiency while it continues to operate the national system as now defined. In a report prepared under the project, a proposal has been made to the government identifying 28 lines of more than 1,300 kilometers for abandonment. The next steps should be the prioritization of these 1,300 kilometers of route for closure and evaluation of alternative means to provide service (for example, road transport substitution or private operation of the line). This has, however, not yet been done, signifying relatively weak government commitment.

Relevance

4.4 The relevance of the project objectives is **high**. The kind of restructuring called for in the project remains essential to support the country's changing economic structure, as the railway faces increasing competition from the road sector and a declining traffic base. The Bank's Country Assistance Strategy (CAS) of 1993 supported the government's structural adjustment program and macroeconomic stabilization objectives. The Bank's strategy in the transport sector was to promote efficiency in both investments and operations, through establishment of a competitive environment, private sector investment and sound pricing policies. This project was a timely intervention due to the drain on fiscal resources that could be expected if restructuring did not take place.

Efficacy

4.5 The efficacy of the project is rated **modest**. The legal and legislative structures were established, but several important aspects of the project's objectives were not fully implemented. The first objective was substantially achieved while the second objective only partially achieved.

4.6 With regard to the physical works of the project, about 84 percent of track rehabilitation was completed by the project closure date (track rehabilitation was 53 percent of the Bank loan); the MIS was not successful (15 percent of the Bank's project costs). There were also deficiencies in the achievement of the project's reform objectives. In particular, several areas of the RAP have not been achieved such as abandonment of uneconomic branch lines and identification of social rail services that the government is willing to support financially.

Efficiency

4.7 The efficiency of the project is rated **substantial**. The railway has reduced its work force; though the labor cost percentage of total operating costs could be improved. Some advances have been made toward commercialization and the legal groundwork has been established for a mechanism for compensating the rail operators for maintaining socially necessary services. The railway has also failed to reduce its service in line with demand. For example, from 1998 to 2001,⁹ passenger traffic declined 34 percent (in terms of passenger kilometers) but number of passenger train kilometers was reduced by only 16 percent. For freight traffic, ton-kilometers during the same period declined by 18 percent, but freight train kilometers were reduced by only 5 percent. Trains have become less productive. The economic difficulties affecting Bulgaria also contributed towards the financial targets for debt service coverage and working ratios not being fully met in accordance with the covenanted Restructuring Action Plan. Faced with drastic fiscal constraints the government was unable to meet the level of PSO payments required.

4.8 The economic evaluation at appraisal showed an ERR of 34 percent for the track renewal, excluding passenger time savings (40 percent, including passenger time savings) and an ERR of 22 percent for the MIS. The track renewal program was 84 percent achieved by the end of the project, due to shortage of counterpart funds. At completion the revised ERR based on the reduced track kilometers improved was of the order of 28 percent. Since the MIS was not implemented no revised ERR is applicable.

Institutional Development Impact

4.9 The institutional development impact is rated **substantial**. The project has led to substantial institutional changes leading to the development of a legal and legislative framework for the future viability of the rail sector in Bulgaria. The Railway Law that was enacted in 2000 provides for the establishment of the separation of the infrastructure

9. A report prepared by the Bank at the request of the Bulgarian government with the topic "Broad Multi-Sector public expenditure review."

and operating organizations of the BDZ. A Contract Plan has also been established between the government and the BDZ EAD. As Bulgaria is planning to join the EU in 2007, the EU requirements regarding railway restructuring are being actively pursued. In addition to the separation of infrastructure from operations, the EU requires that open access be granted to all operators over BDZ tracks as well as the establishment of a track access charge that would apply to all users. While at present BDZ EAD is the only rail operator in Bulgaria, the legal provisions are in place to permit open access.

Sustainability

4.10 The project certainly established a basis for future reform, but there is some doubt that the potential benefits of the project will be fully realized, which could jeopardize the sustainability of the project. This is evident by the lack of full government commitment to date to giving BDZ autonomy in the setting of tariffs and the failure to close uneconomic branch lines or to adjust service levels to match demand. The government continues to favor protection of the railway, which is not conducive to establishing a commercial and competitive environment and is detrimental to the sustainability of the project's benefits. Despite commissioning a study to investigate the introduction of a traffic costing system, the implementation of such a system has yet to be commenced.

4.11 An IBRD report¹⁰ prepared at the request of the Bulgarian government in mid 2002 stated that the BDZ *“does not operate as a commercial enterprise; it functions, rather, as a government department.”* The report goes on to describe BDZ... *“For BDZ profit maximization has not been a goal. In fact, its net income has been negative since the start of the economic transition. Its deficit reached 124 million leva in 2001, or 21% of total costs, even after taking into account operating subsidies provided by the government. Like a government department, BDZ operates with very little cash and aims only at balancing its revenues and the cash outflows necessary mainly for operations and debt service.”*

4.12 As Bulgaria moves closer to accession of the EU, however, there will be increased pressure to move the railway reform process forward at a much more rapid rate. Based on the information available and interviews undertaken by the PPAR mission, the sustainability of the project's benefits would be rated unlikely at this time if it were not for the urgent accession requirements. The position is therefore expected to rapidly improve as a result of this pressure and bold actions are anticipated by the government and BDZ in the near future. For this reason alone sustainability is considered **non-evaluable**.

Bank Performance

4.13 Bank performance is rated **satisfactory**, but marginally so because there were some areas where closer monitoring of implementation could have led to a more complete project. This is particularly true regarding the implementation of the MIS. If there had been tighter monitoring by the Bank during the early period of dispute between

10. *Bulgaria State Railway Fiscal Burden and Options for Reform.*

the contractor and the BDZ, the implementation of the MIS might have moved forward. Too few missions were scheduled during 2001-02. This said, the Bank team did give important technical support when it could, and the comprehensive format for presenting and analyzing key data affecting financial performance could be considered “best practice” for supervision of state-owned enterprises.

Borrower Performance

4.14 Borrower performance is rated **satisfactory**, but also marginally so, given the problems with the MIS implementation, the delay in providing counterpart finance and the fact that some of the existing and past management staff of BDZ expressed doubt about the current degree of commitment to the changes needed to ensure a commercially oriented railway in Bulgaria.

4.15 One area of weakness remains the lack of autonomy of the railway operating company. All decisions regarding tariff changes, line abandonment and adjustment of train services are effectively made by the government, through the Ministry of Transport. This is a critical area and unless resolved will inhibit the railway from becoming a truly commercial company.

4.16 The PPAR mission recognizes the difficulty faced by the government in taking the steps of line closure and reduction of services to the people. However, these difficult measures will be necessary if the railway is to move toward operations consistent with commercial principles.

5. Conclusions and Lessons

Stronger Advisory Role of the Bank Needed for Complex Implementation Components

5.1 A complex project component such as a Management Information System, bringing new technology and necessitating a change in client mindset, requires an *appropriately-sized level of supervision and technical support* from the Bank. Should interventions be necessary they should preferably occur at an early stage and the Bank should not hesitate to intervene with the appropriate technical assistance to assure a successful project.

Phased Implementation of MIS Rather than Turnkey

5.2 Implementation of an integrated MIS within any railway environment is a complex undertaking and should be considered especially carefully in a transitioning economy. In the event of a future MIS to be implemented on other railways in the future, *it is recommended to implement the MIS in phases*, each module one at a time, instead of the entire system at once. For example, the Bulgarian MIS was composed of three elements: a passenger information module, a freight information module and a financial

information module. Each of these modules could have been implemented separately, and when working satisfactorily, the process of integration with the other systems could have begun. Turnkey projects may be inappropriate for such projects.

Improve Traffic Costing Capability at BDZ

5.3 The *traffic costing* capability of the operating companies needs to be strengthened by using an appropriate costing model. A procedure for such a costing technique was described and demonstrated in a consultant's report prepared under technical assistance within the project (using a grant from Japan)¹¹. A list of light-density unprofitable branch lines was shown as well as a list of stations that could be closed. Techniques demonstrated in this report could be used as a basis for cost allocation and developing a costing model for BDZ.

PSO Subsidies to be Service Specific

5.4 Public Service Organization subsidy payments made to BDZ are based on estimates of the shortfall of revenues compared with costs to provide passenger services, with the constraint of available funds from the Ministry of Finance. While this is consistent with the objectives of the project, the PPAR mission considers that in future, the *PSO subsidy should be for specific services that the government considers socially necessary* and that BDZ cannot reasonably be expected to operate on a commercial basis. There may be other services that can be operated commercially, and these services should not be supported by subsidy¹². A service specific subsidy would ensure that government subsidy funds are supporting only those services that require such support with the remainder of services either commercially viable or abandoned. However, this can only be implemented when a traffic costing system is in place to evaluate specific services and/or routes.

5.5 The following lessons may be drawn from the experience of this project:

- *Rationalizing subsidy support and introducing appropriate traffic costing models* are important pre-requisites to restoring the long-term financial health of state-owned railway companies and moving them towards commercial operation;
- It is critical to the success of a complex undertaking such as the installation of an integrated Management Information System that *sufficient technical supervision and support* be made available to assist with resolving problems as they arise;

11. *Bulgaria State Railways, Rationalization of Rail Network and Operations, Establishment of PSO Contracts, and Improvements in Marketing*; November, 2002; PADECO

12. See also EBRDs Expanded Monitoring Report of September 6, 2001 with similar comments.

- An integrated Management Information System may be too complex an undertaking to implement as a single package in a transitioning economy; Consideration should be given to a *phased design approach*;
- *Public Service Obligation Subsidy* should be for specific services that the government considers socially necessary; such social services should be transparent, explicitly defined and fully compensated as part of a Contract Plan.

Annex A. Basic Data Sheet

Railway Rehabilitation Project for Bulgaria (credit 3922-BUL)

Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs	\$296.0	\$280.0	94.6
Loan amount	\$95.0	\$80.0	84.2
Cofinancing	\$75.0	\$90.0	125.0
Cancellation	-	\$15.0	-

Project Dates

	<i>Original</i>	<i>Actual</i>
Initiating memorandum	05/21/1993	05/21/1993
Board approval	07/06/1995	07/06/1995
Signing	11/08/1995	11/08/1995
Effectiveness	03/01/1996	03/01/1996
Closing date	06/30/2000	06/30/2002

Staff Inputs (staff weeks)

	<i>No. Staff Weeks</i>	<i>Actual/Latest Estimate</i>	<i>US\$ ('000)</i>
Appraisal/Negotiations	n.a.		379,000
Supervision	n.a.		635,600
ICR	-		-
Total	-		1,014,600

The supervision cost figures include the cost of trust funds.

Mission Data

Stage of Project Cycle	Date (month/year)	No. of persons	Specializations represented	Performance rating	Rating trend
Identification/ Preparation	03/16/93				
	06/15/93				
Appraisal/Negotiation	06/24/94	1	Task Manager	S	S
	04/17/95	1	Engineer	S	S
		1	Env. Specialist	S	S
		1	Financial Analyst	S	S
		1	Operations Officer	S	S
Supervision	11/17/1995	2	Pr. Transport Econ, (1) Sr. Railway Engineer (1)	S	S
	03/14/1996	2	Financial Analyst (1); Pr. Transport Econ. (1)	S	S
	05/10/1996	2	Financial Analyst (1); Consultant (1)	S	S
	12/02/1996	3	Financial Analyst (1); Consultant (1); Project Officer (1)	S	S
	05/19/1997	4	Financial Analyst (1); Economist (1); Engineer (1); Operations Officer (1)	S	S
	12/01/1997	4	Operations Officer (1); Financial Analyst (1); Sr. Railway Specialist (1); Sr. Systems Analyst (1)	S	S
	05/12/1998	3	Operations Officer (1); Sr. Railway Specialist; Financial Analyst (1)	S	S
	03/23/1999	3	Sr. Railway Specialist (1); Financial Analyst (1); Sr. Operations Officer (1)	S	S
	10/14/1999	3	Sr. Railway Specialist (1); Financial Analyst (1); Consultant (1)		
	06/26/2000	1	Financial Analyst (1)	S	S
	12/07/2000	3	Sr. Transport Economist (1); Sr. Financial Analyst (1); Consultant (1)	S	S
	06/07/2001	3	Sr. Transport Economist (1); Financial Analyst (1); Procurement Analyst (1)	S	S
	12/13/2001	3	Sr. Transport Economist (1); Financial Analyst (1); Procurement Analyst (1)	S	S
	06/12/2002	4	Senior Transport Econ. (1); Financial Analyst (1); Operations Officer (1); Railways Adviser (1)	S	S

ICR

Annex B Borrower Comments