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PROJECT PERFORMANCE ASSESSMENT REPORT

ROMANIA

TELECOMMUNICATIONS REFORM AND PRIVATIZATION SUPPORT PROJECT

(LOAN 4319-RO)

March 3, 2009

*Sector Evaluation Division
Independent Evaluation Group (World Bank)*

Currency Equivalents (annual averages)

Currency Unit = New Romanian Lei (RON)

1998	US\$1.00	ROM 0.89
1999	US\$1.00	ROM 1.54
2000	US\$1.00	ROM 2.12
2001	US\$1.00	ROM 2.94
2002	US\$1.00	ROM 3.41
2003	US\$1.00	ROM 3.41
2004	US\$1.00	ROM 3.34
2005	US\$1.00	ROM 2.94
2006	US\$1.00	ROM 2.82
2007	US\$1.00	ROM 2.45

Abbreviations and Acronyms

ANRC	National Regulatory Agency for Communications
ANRCTI	National Regulatory Authority for Communications and Information Technology
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
GIC	General Inspectorate of Communications
GICIT	General Inspectorate of Communications and Information Technology
GOR	Government of Romania
ICR	Implementation Completion Report
IEG	Independent Evaluation Group
IEGWB	Independent Evaluation Group (World Bank)
ITU	International Telecommunications Union
MOCIT	Ministry of Communications and Information Technology
NSMS	National Spectrum Management System
OTE	Hellenic Telecommunications Organization
PPAR	Project Performance Assessment Report
RDP	Regulatory Development Program
RFMS	Radio Frequency Spectrum Management
SAR	Staff Appraisal Report
SEMOS	Spectrum Engineering and Management Operation Support
USAID	United States Agency for International Development
VoIP	Voice-over Internet Protocol
WTO	World Trade Organization

Fiscal Year

Government: January 1 – December 31

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

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The Independent Evaluation Group 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, IEGWB annually assesses about 25 percent of the Bank's lending operations through field work. 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.

To prepare a Project Performance Assessment Report (PPAR), IEGWB staff examine project files and other documents, interview operational staff, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEGWB peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. IEGWB incorporates the comments as relevant. 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.

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Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is 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). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is 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. The efficiency dimension generally is not applied to adjustment operations. *Possible ratings for Outcome:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for Risk to Development Outcome:* High Significant, Moderate, Negligible to Low, Not Evaluable.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes. The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for Borrower Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

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<p>This report was prepared by Peter Freeman, who assessed the project in May, 2008. Romyne Pereira provided administrative support.</p>
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Principal Ratings

Telecommunications Reform and Privatization Project (Loan 4319-RO)

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Moderately Satisfactory
Institutional Development Impact**	Substantial	Substantial	——
Risk to Development Outcome	——	——	Negligible to Low
Sustainability***	Likely	Likely	——
Bank Performance	Satisfactory	Satisfactory	Moderately Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Moderately Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.

**As of July 1, 2006, Institutional Development Impact is assessed as part of the Outcome rating.

***As of July 1, 2006, Sustainability has been replaced by Risk to Development Outcome. As the scales are different, the ratings are not directly comparable.

Key Staff Responsible

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
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Preface

This is the Project Performance Assessment Report (PPAR) prepared by the Independent Evaluation Group (IEG) for the *Telecommunications Reform and Privatization Support Project* (Loan 4319-RO). The International Bank for Reconstruction and Development (IBRD) loan to the Government of Romania (GOR) was approved by the Board of Directors on April 28, 1998 in the amount of US\$30.00 million equivalent. At appraisal the total project cost was estimated to be US\$44.00 million, with US\$14.00 million to be contributed by the GOR.

In the event, the IBRD loan was substantially under-spent; US\$13.55 million was disbursed (45.2 percent of the original loan amount) and US\$16.45 million was cancelled. The final total project cost disbursed was US\$29.74 million. Project closure was delayed by six months because of delays in the implementation of the contract for spectrum engineering and management operation support.

The project was selected for assessment because of its potentially important contribution to telecommunications sector strategy development in Romania. Some useful lessons can be drawn from this project which will be valuable for other similar projects in the region and elsewhere. It will also provide an input into the planned IEG review of Bank-financed projects in telecommunications and the knowledge economy.

IEG 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 Bank staff in both Washington D.C. and in Bucharest. An IEG field mission visited Romania in May 2008, conducted site visits, and discussed both the project and the effectiveness of Bank assistance with relevant officials and stakeholders. The mission appreciates the courtesies and attention given by these interlocutors as well as the support provided by the Bank's office in Bucharest.

Following standard IEG procedures, copies of the draft PPAR were sent to government officials and agencies for their review but no comments were received.

Summary

The *Romania Telecommunications Reform and Privatization Support Project* (Loan 4319-RO) was designed to support the reform of the country's telecommunications sector. After the enactment of a Telecommunications Law in 1996 the Government of Romania (GOR) started taking significant steps towards liberalizing and reforming the country's telecom sector. The challenge was to meet the requirements in this area for accession to the EU and at the same time comply with the requirements of the World Trade Organization (WTO) and the International Telecommunications Union (ITU). To this end the Bank gave support for further sector reform, including an appropriate regulatory framework which culminated in the establishment of a regulatory agency and the privatization of Romtelecom.

The objectives of the project were:

- To assist Romania in reforming the telecom sector, including privatization of existing public sector telecom facilities;
- To provide the necessary infrastructure to enable the Borrower to maximize the productive use of the radio frequency spectrum and to improve frequency assignment criteria for further expansion of wireless communications services provision by the private sector; and
- To support the Borrower in performing regulatory functions over all networks and services in the telecom sector.

Taking into account the achievement of the individual development objectives two substantially achieved and one modestly achieved, (that accounted for the bulk of the Bank funding), together with a high relevance rating, but a modest efficiency rating, the overall outcome is rated **moderately satisfactory**. On January 1, 2003 Romania completely liberalized its telecom sector, by removing Romtelecom's exclusive rights to offer voice telephony and leased wire services, and through implementing a simplified procedure for providers to enter the market. The majority shareholding in Romtelecom was taken up by the private sector after 54 percent of the shares were purchased by a Greek company. The project also provided critical support for the development of an EU-compliant legal framework and assisted in the preparations for the establishment of a regulatory agency. Although the training elements were substantially achieved, this was largely achieved in the event with other external resources and not from the Bank loan.

The installation of a National Spectrum Management System (NSMS), which utilized the bulk of the loan, proved problematical and there were deficiencies in system performance that were still being addressed long after the project closed. The project should have closed on December 31, 2002, but this date was extended to June 30, 2003 due to a proliferation of design changes. The full implementation of the NSMS was further delayed because of system operational problems and difficulties in obtaining zoning approval for the high frequency station.

Not much thought was given to Monitoring and Evaluation (M&E) during design with only modest results, but during implementation important key performance indicators were put in place together with a log frame matrix. This substantial progress was continued after project closure and the regulatory agency (ANRCTI) now makes public a relatively sophisticated database which is used and appreciated by the industry. Overall, M&E was **substantial**.

The risk to development outcome is **negligible**. ANRCTI is functioning effectively and funded independently using fees levied on the operators. Romania has complied with the terms of accession and been admitted to the EU and is also in full compliance with the requirements of both WTO and ITU. It has graduated to a level where it is highly unlikely to reverse reforms achieved. Liberalization of the sector has, moreover, brought in several vigorous private firms contributing significant capital flows. The presence of these firms is likely to build popular support for further reform, and thus this transformation is highly unlikely to be reversed.

In general the project was adequately designed, but the equipment costs were overestimated. The assistance with the legal regulatory framework also proceeded well for the most part. However, the relationship between the implementing agency and the Bank in respect of the NSMS was a difficult one. The Bank team did not succeed in reaching an agreement on the issue of design changes, nor on the scope of support for the envisioned laboratories and workshops.

It also did not succeed in persuading the GOR to adopt a single regulatory model, rather than a split-responsibility, two-agency model that in the end had to be changed to the single model version immediately prior to EU accession. When the loan was closed only 45 percent of the funds available had been expended. While some of the shortcomings were due in part to factors beyond the Bank's control, project completion took much longer than had been planned. Bank performance was **moderately satisfactory**.

During preparation the GOR was very active and helpful. For example, the then Minister of Communications played an active role in the project design and concurred with the Bank on the need for a single regulatory agency. In this period the groundwork for Romtelecom privatization was successfully carried out. However, after a change in government the commitment to a single regulatory agency changed. For about two years there were uncertainties in respect of the mandate and regulatory architecture. This led to delays in building-up the necessary capacity to move forward, which in turn led to slow project progress.

The then implementing agency, the General Inspectorate for Communications and Information Technology (GICIT), was somewhat inflexible in approach, insisting against Bank advice on extensive design changes, and this accounted in part for delays to the project. The agency also changed the scope of the facilities for regional laboratories and workshops; it was also unable to quickly resolve deficiencies in system performance, and did not fully utilize the expertise of the project management consultants. Overall borrower performance was **moderately satisfactory**.

The following important lessons can be gleaned from the assessment of this project:

- In the telecom sector and in the Romania Telecommunication Reform and Privatization Project, where the frontier of technology is moving at a rapid pace, it is advisable to build a degree of flexibility into project design and supervision to accommodate at least some of the new applications that may become possible during implementation.
- Project design of telecom projects such as the Romania Telecommunication Reform and Privatization Project involving equipment procurement and installation should give more attention to risks in project cost estimation and assessment of bidders for the supply and installation of telecom equipment. Supervision should help ensure that appointed project management consultants are fully utilized.
- While it is important for the Bank to focus on technical assistance aspects of telecom projects, such as support for training and for the development of the policy and regulatory frameworks, it is also essential to ascertain potential support for such components from other international financial institutions and agencies to eliminate duplication of resources, as occurred in the Romania Telecommunication Reform and Privatization Project.

Vinod Thomas
Director-General
Evaluation

1. Background

1.1 Romania is a middle income country with a GNI per capita of US\$ 4,850 in 2006.¹ With a population of 21.6 million, it is the second largest country in central and Eastern Europe and the seventh largest among the 27 current members of the European Union (EU). Although Romania's transition from a centrally planned to a market economy began in 1990, initially the government was hesitant to impose tight fiscal constraints and privatize large loss-making enterprises. Negative economic growth in the late nineties, however, led to improved financial discipline and the adoption of macroeconomic policies that encouraged economic growth.

1.2 Romania joined the EU on January 1st, 2007—the prospect of becoming an EU member having provided a good incentive for the transformation of the country during the previous ten years. Progress in reforms translated into a robust GDP growth averaging 5 to 6 percent for seven consecutive years, with inflation declining steadily.² However, the trade deficit remains a cause for concern, and EBRD has recently warned that a failure to develop sufficient physical infrastructure could act as a brake on economic growth.³ International competition and skilled labor shortages are squeezing traditional industries as demand shifts to higher quality products and services. The population of Romania has actually fallen by 1.7 million over the last ten years, due partly to emigration, but also to a decline in the country's birth rate.⁴

1.3 Commencing in 1996 with the enactment of a new Telecommunications Law, the GOR began to take significant steps to liberalize and reform the telecommunications⁵ sector, inter alia licensing a number of private firms to provide mobile telephone service. It broadened these actions by its commitments to the World Trade Organization (WTO) and the EU, the latter in the context of preparing for accession in 2007. The *Telecommunications Reform and Privatization Support Project* (Loan 4319-RO) was thus designed to support and help facilitate the government's program of telecom reform.

1.4 The value of the Romanian telecom market (comprising fixed and mobile telephony services, internet services, data transmission and leased lines) was estimated to be US\$5.07 billion in 2007, having experienced a growth of 21 percent over 2006.⁶ This upsurge in consumption has been accelerating since Romania began transitioning to a market economy, and as technological changes have opened up new and diverse communication opportunities to all citizens. In particular, the expansion of the usage of cellular telephones in Romania has more than tripled from 7,040 million users in 2003 to 22,875 million in 2007.⁷ The mobile penetration rate per 100 inhabitants improved from

¹ World Bank data based on the GNI Atlas method

² World Bank, Romanian Business Digest Report, March 2008

³ EBRD, "Doing Business—Transition Report in Romania", March 2008

⁴ Labor Minister, Hon. Paul Pacurar, statement reported in "Nine O' Clock Newspaper," May 15, 2008

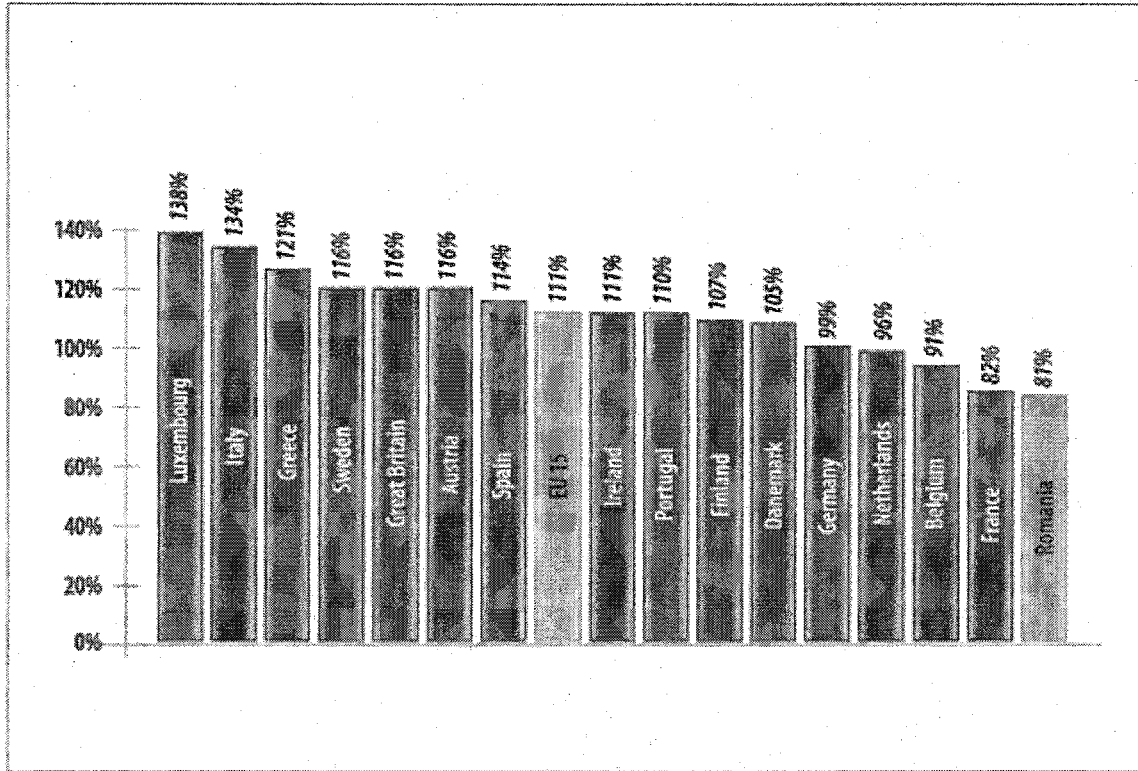
⁵ Hereafter referred to as telecom

⁶ Romanian Business Digest; estimate by Roland Berger Strategy Consultants

⁷ www.anrcti.ro

38.6 percent in June 2004 to 81 percent at January 1st 2007, but below the average of the EU15 countries at accession, see Figure 1.1.

Figure 1.1 Penetration rates of mobile services in Romania compared to EU 15 penetration rates prior to Romania's accession to the EU on January 1, 2007



*Source: <http://www.comreg.ie/fileupload/publications/ComReg0652>; courtesy of ANRCTI

1.5 With the Romanian telecom market approaching maturity, traditional services such as fixed line telephony, following international trends, are beginning to experience sustained pressure on revenues due to stronger competition and continued price erosion from mobile telephony and with the emergence of alternative services such as Voice-over Internet Protocol⁸ (VoIP).

1.6 Originally, the telecom regulatory function was the responsibility of the General Inspectorate of Communications (GIC), re-organized as the General Directorate of Communications and Information Technology (GICIT) in March 2002. Six months later the National Regulatory Agency for Communications (ANRC) was established, but responsibility for spectrum management was kept with GICIT. This situation prevailed until December, 2006 when ANRC was replaced by the National Regulatory Authority for Communications and Information Technology (ANRCTI). The new authority was also given the mandate to regulate the converging information technology domain⁹, since

⁸ Voice-over-Internet Protocol systems or VoIP carry telephony signals as digital audio; this means one person can talk to another through the internet, as though it were a phone.

⁹ Principally the convergence of digitalization, broadcasting and the internet

there was no institutional regulatory framework to assure the country's transition to the emerging information society¹⁰. In April 2007 ANRCTI formally took over the functions of GICIT as well as responsibility to ensure full harmonization of national and EU legislation. The Ministry of Communications and Information Technology (MOCIT) remains responsible for policy development, while the Competition Council is the national authority responsible for competition issues in all sectors of the economy, including the electronic communications sector.

2. The Project

Project Objectives and Design

2.1 The objectives of the project as laid out in the Staff Appraisal Report (SAR) and Loan Agreement are as follows:

- To assist Romania in reforming the telecom sector, including privatization of existing public sector telecom facilities;
- To provide the necessary infrastructure to enable the Borrower to maximize the productive use of the radio frequency spectrum and to improve frequency assignment criteria for further expansion of wireless communications services provision by the private sector; and
- To support the Borrower in performing regulatory functions over all networks and services in the telecom sector.

2.2 There were two components:

- i. *Broad-based Sector Reform*: comprised of the privatization of Rom-telecom¹¹ and the development of policy, legal and regulatory frameworks:
 - Policy framework: to further develop and support the basic policy framework, building on Romania's agreement with the WTO and to ensure consistency with the EU *acquis communautaire*¹². The effort was intended to focus on such key areas as industry structure, competition policy, ownership policy, pricing policy, regulatory policy, and the extent to which the existing entities could participate in various service areas;

¹⁰ A knowledge economy project with World Bank support has been launched to develop local community electronic networks.

¹¹ Romtelecom is still the largest telecommunications company in Romania; the company had a monopoly for the provision of fixed telephony services until January 1, 2003.

¹² The term *acquis communautaire* is used in the EU to refer to the total body of EU law accumulated to date. During the process of enlargement of the EU, the *acquis* was divided into 31 chapters for the purpose of negotiation between the EU and the candidate member states. Chapter 19 refers to telecommunication and information technologies.

- Legal framework: Provide legal underpinning for transparent regulation and the chosen policy alternatives;
 - Regulatory framework: Strengthen technical regulation (quality of service, type approval of equipment, frequency spectrum management) and economic regulation (such as prices and license fees).
- ii. Regulatory Agency Development: this component focused on the initial concept of strengthening the GIC (later re-organized as GICIT) as the single regulatory body for the telecom sector, including modernization of its infrastructure for radio spectrum management and monitoring. A Regulatory Development Program (RDP) was to be designed and implemented under the project, consistent with the overall sector policy, with the following governing principles:
- *Independence* of GICIT from both entities which would be regulated and from the policy makers;
 - *Structure* to define the legal, organizational and administrative arrangements under which GICIT functions as an independent body;
 - *Autonomy*, consisting of both operational autonomy (such as appointment of regulators on a transparent basis and meeting minimum qualifications) as well as financial autonomy (for example, independence from the national budget and financing of GICIT from regulatory services);
 - *Area of responsibility* defining GICIT's purview of regulation as well as the necessary instruments (such as economic regulation, technical regulation, interconnection regulation, service quality regulation, monopoly operator regulation, promotion of competition, spectrum assignment and licensing).
- 2.3 It was envisaged that the project would fund the establishment of a National Spectrum Management System (NSMS) with three main elements:
- Installation of hardware and operating system software;
 - Installation of application software for the Radio Frequency Management System (RFMS). This would enable the authorities to assure that allocation of frequencies would be in accordance with the International Telecommunications Union (ITU)¹³ guidelines, and would also be used to evaluate new applications to avoid potential interference with existing services, compliance with national regulations, and cross-border frequency coordination;

¹³ The ITU's main tasks include standardization, allocation of the radio spectrum, and organizing interconnection arrangements between different countries. It is one of the specialized agencies of the United Nations, and has its headquarters in Geneva, Switzerland.

- Establishment of a frequency monitoring system to assure that transmissions by licensees are in conformance with their frequency allocations and consistent with the provisions of their license. For this purpose, the program provided for the procurement of 22 fixed monitoring stations, 10 mobile stations, 15 transportable stations, one high-frequency station, and enabling software.

2.4 Table 2.1 shows the distribution of funding between the Bank and the GOR as estimated at appraisal as well as actual costs incurred. Only 45.2 percent of the IBRD loan was utilized and only 67.8 percent of the original estimated project cost was expended; GOR's share of the project cost was 15.6 percent higher than anticipated.

Table 2.1 Project Cost Estimates at Appraisal and Actual Costs Incurred (US\$ millions)

Item	Bank Appraisal	Bank Completion	GOR Appraisal	GOR Completion	Total Appraisal	Total Completion
Sector Reform	-	-	1.80	1.80	1.80	1.80
Regulatory Agency TA	1.00	2.73	2.20	1.47	3.20	4.20
Equipment	29.00	10.82	10.00	12.92	39.00	23.74
Total	30.00	13.55	14.00	16.19	44.00	29.74

Source: ICR/SAR

2.5 This telecom project was strongly supported by GOR, which was keen to gain privatization revenues and the project was specifically cited as a priority in the Country Assistance Strategy (CAS) of 1997. Quality at entry was deemed to be satisfactory by the Bank Quality Assurance Group (QAG), which undertook a Rapid Supervision Report in 1999 in which it stated that the project design was sound, the project was fully ready for implementation, and that Borrower commitment was strong. IEG, however, does have a caveat because the project cost estimate was clearly too high, (see paragraph 3.7).

2.6 The original project concept in 1992 envisaged financing to cover Rom-telecom's fixed telephone network, but after Romania secured funding for this purpose from the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD), the World Bank's preparation activities were suspended, and after further deliberations the project in due course evolved into its present form with the emphasis on technical assistance.

3. Implementation Experience

3.1 *Design changes.* The project was approved on April 28, 1998 and became effective virtually on schedule on September 21, 1998. During a post-effectiveness design review, however, GIC and the Bank had a disagreement over the design concept, with the Bank supporting the project as already conceived, and GIC striving to adapt the design with changing technology and higher performance standards. GIC went ahead and negotiated over 30 design changes with the contractor concerning the NSMS. In the event, the Bank maintained that most proposed changes were unnecessary and added to project complexity, thus raising the degree of technical risk. Accordingly, it declined to finance the amendments, but GIC proceeded using own funds for this additional work. The process of introducing design changes, the attendant review by the Bank, and subsequent negotiations led to a delay of about seven months before the project was closed.

3.2 IEG believes that there could have been room for some compromise between the parties (see also paragraph 5.17), especially as the equipment cost was in the end much lower than anticipated. A problem with the financing of telecom projects is that the frontier of technology, and especially digital technology, is moving at such a fast pace that by the time the project is approved the specifications are outdated by new demands from for example the ITU and, also in this case, the EU.

3.3 *Regulatory structure.* Under the RDP the Bank recommended that the GOR should establish a single regulator and at appraisal such a structure was agreed with GIC performing this regulatory function. However, following a change in government this concept was rejected by GOR in favor of a two-agency model, with GICIT (the successor of GIC) responsible for spectrum management and monitoring (including the assignment of frequencies to nongovernmental users), while ANRC, a newly established entity, was to take responsibility for administering the regulatory regime, as well as the economic and competition aspects of regulation.

Figure 3.1: Regulatory Structure as Conceived in the SAR

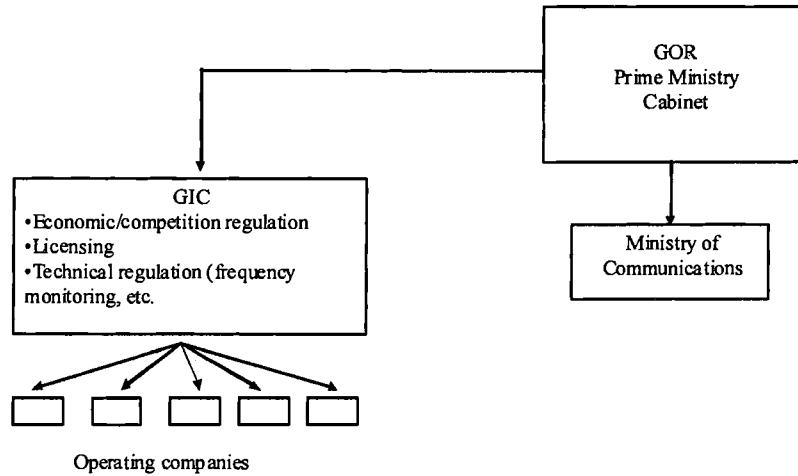
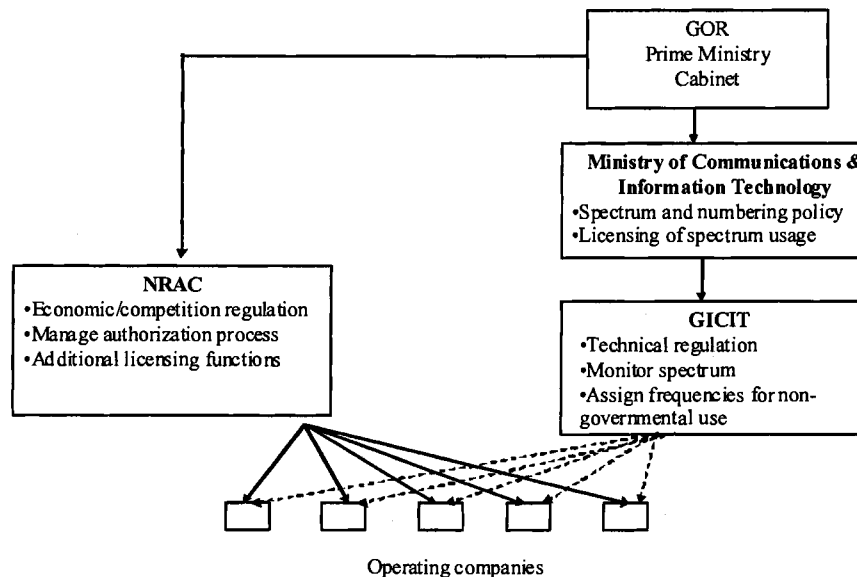


Figure 3.2: Regulatory Architecture as Implemented



3.4 In both models MOCIT remained responsible for policy development (see Figures 3.1 and 3.2). The GOR claimed that this bifurcated institutional arrangement was in line with the practice at the time in countries such as the United Kingdom. Reluctantly,

the Bank agreed with this proposal since the regulator could still perform functions independently both from MOCIT and from the system operators. It also had financial autonomy. The EU also accepted this structure for the provisional closing of the *acquis communautaire*, but signaled that the single model was preferable and that this issue would have to be sorted out prior to Romania's formal EU accession.

3.5 The British model was thought by the Bank, however, to be a poor comparison with the situation prevailing in Romania. This was because the United Kingdom was already a mature market economy with well-established institutions for dispute resolution, including an independent judiciary. Since that time the British have in any case abandoned the two-agency model further vindicating the Bank's position. Although ANRC handled the majority of the regulatory functions, MOCIT remained responsible for frequency allocation, but as MOCIT owned 46 percent of Romtelecom and other telecom infrastructure assets including the National Radio-communications company, (Rom-radiocom), there was a potential conflict of interests. Over three years after project closure, but prior to EU accession, the GOR reversed the two agency decision, and ANRC became ANRCTI, as a single agency with full regulatory authority.

3.6 *Performance of the contractor.* The contractor had problems in supplying components that were fault-free. There was a fire in the assembly facility which led to a declaration of *force majeure* circumstances, compounding the implementation delays already apparent. Even after this crisis was overcome, the contractor continued to deliver faulty components at an unacceptably high rate, which distracted GIC to a certain extent from its other responsibilities.

3.7 *Procurement, project scope and safeguards.* The procurement of the software and equipment for the NSMS was less costly than originally estimated. US\$7.0 million was cancelled from the IBRD loan on March 1, 2000 and a further US\$9.45 million at project close, which meant that only 45.2 percent of the loan was disbursed. The ICR is silent on why there was a cost over-estimate, but IEG notes that in part savings were due to a competitive market for international bids (the successful bidder, which was ranked high on quality, was 30 percent cheaper than the second bidder) and possibly in part to a reduction in equipment prices due to unforeseen advances in technology.

3.8 Part of the cancellation was also due, however, to miscommunication between the Bank and GIC on the scope of support envisioned for regional laboratories and workshops. In January 2001, without consultation with the Bank, GIC concluded a contract for the supply of equipment including various components already covered under the IBRD loan. The Bank argued that GIC was not following a consistent strategy and that accordingly it should rather use its own funds to finance this sub component. It also noted that there was potential duplication with the capacity building support offered by the EU and USAID, and since these organizations offered grant funding, GOR clearly preferred to use these sources instead of loan funds.

3.9 IEG notes that no safeguards were triggered by this project, which was rated as a category C project with minimal or no adverse impacts. There was a zoning problem related to land acquisition at the high frequency station, which was resolved with the appropriate authorities.

4. Monitoring and Evaluation

Design

4.1 Neither the SAR nor the ICR give evidence of a great deal of thought going into the monitoring and evaluation (M&E) function during preparation, although admittedly in 1998 this aspect was poorly developed in many areas in the Bank. The SAR mentions only the standard procedures for monitoring project implementation, such as quarterly progress reports and annual audit reports.

Implementation

4.2 The ICR, however, records several key performance indicators within a log frame matrix, but the targets had to be retrofitted in early implementation as no targets had previously been set. This matrix includes some useful time-related measures such as the achievement of privatization by Romtelecom, WTO benchmarks, the expiry date for Romtelecom exclusivity, clarification of GIC's status, and the establishment of a Regulatory Agency. For the installation of the NSMS three output indicators were mentioned: i) date that the GICIT computer system became operational; ii) date that the spectrum management system became operational and iii) date that the integrated NSMS became operational. Though not included in the log frame annex the ICR also refers to indicators of the rate of expansion of the telecom sector in Romania, but admits that there is a problem in linking progress in this project with such growth since many other factors are also attributable to this phenomenon.

4.3 The indicators above were used to track project progress, and, after the setting up of the NSMS, the number of times the system was used was also monitored showing a significant increase in applications for licenses and assignments on the frequency band. With the setting up of GICIT and its subsequent transformation into ANRC (and eventually ANRCTI) a statistical database of indicators gradually evolved as evidenced in the Annual Reports and website. However, much of this development occurred only after project closure.

Utilization

4.4 IEG discussions with industry representatives indicate that the current system of indicators further developed by ANRCTI is well used and is continuing to evolve. For example it includes details of the rate of expansion of fixed and mobile telephony and indicators of the degree of competitiveness within the industry. It is also likely to expand further because of the need to fall in line with the requirements of the WHO, ITU and the EU.

Monitoring and Evaluation Summary

4.5 Little thought was given to M&E during design with only modest results, but during implementation important key performance indicators were put in place together with a log frame matrix. This substantial progress continued after project closure and

ANRCTI now makes public a relatively sophisticated database which is used and appreciated by the industry. Overall, M&E was **substantial**.

5. Project Outcomes by Objective and Ratings

Relevance

5.1 As mentioned in paragraph 2.5, the project development objectives were supported by GOR, which was keen to gain privatization revenues and conform to both WTO and EU practice in telecoms. The project was also specifically prioritized in the CAS of 1997. The Bank recognized that the demand for telecom services had doubled in the decade prior to this project, and also that the rapid advancement in communication technologies had removed many of the technological barriers to market entry. Tariffs for basic services needed to be liberalized and the sector opened to competition as soon as possible. This entailed fairly radical sector reform with the new dispensation framed within an appropriate policy, legal and regulatory architecture. The development objectives were thus highly relevant. Project design was relevant in that there were components dealing with privatization, a regulatory framework and the establishment of the NSMS to upgrade Romania's previous rudimentary spectrum management capability to meet accelerating user demand. Overall relevance was and remains high.

Efficacy

5.2 *Objective i) to assist Romania in reforming the telecom sector, including privatization of existing public sector telecom facilities. Substantially achieved* In accordance with its WTO obligations, on January 1, 2003 Romania completely liberalized its telecom sector, by removing Romtelecom's exclusive rights to offer voice telephony and leased wire services, and through implementing a simplified procedure for providers to enter the market. The Bank assisted GIC by reviewing the terms of reference for the privatization advisors; supporting a consultancy for the Regulatory Development Program; periodically monitoring implementation progress; and ensuring coordination between the various stakeholders. For example it visited the Information Society Directorate General of the European Community in Brussels, and the EU delegation in Bucharest to help ensure that the process of regulatory reform would fully meet EU requirements.¹⁴

5.3 The majority shareholding in Romtelecom, which remains the predominant provider of fixed line services, was taken up by the private sector after 54 percent of the shares were purchased by a Greek company, Hellenic Telecommunications organization, (OTE) in two separate initiatives.¹⁵ The remaining 46 percent shareholding is still owned by the GOR, but the MOCIT is planning to sell off these remaining shares when market conditions improve. It is significant that Romtelecom has become a much more efficient operation with the number of employees reduced from 50,000 in 1998 to 23,500 in 2003.

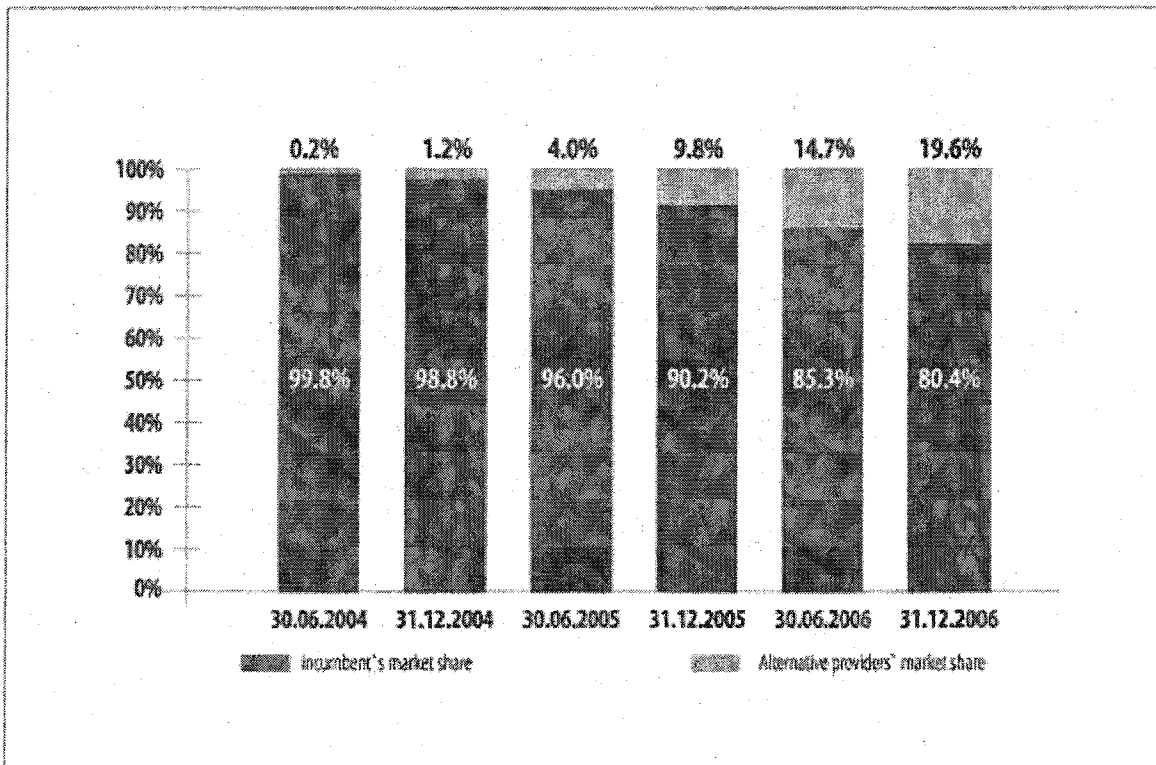
¹⁴ Bank supervision aide memoire, November 3, 2000

¹⁵ 35% in 1998 and 19% in 2002

The waiting list for fixed line installation was reduced by 44 percent during the same time period.

5.4 The number of fixed lines peaked at 4.3 million in 2005, decreasing to about 3.8 million in 2006 as many new subscribers moved straight to cellular telephony. Nevertheless, by 2006, the total number of operational providers of fixed telephone services on the retail market had grown to 21 providers, while the number of providers offering national call services increased to 63. Figure 5.1 shows that nearly 20 percent of the market formerly controlled by Romtelecom was already supplied by alternative providers after only three years. Both the electricity transmission utility and the railway company have formed subsidiaries to offer telecom services using optic fiber networks along their respective rights of way. Rom-radiocom also launched its own telephony services for corporate customers, offering attractive prices on its VoIP¹⁶.

Figure 5.1 Trends in the public fixed line telephone market



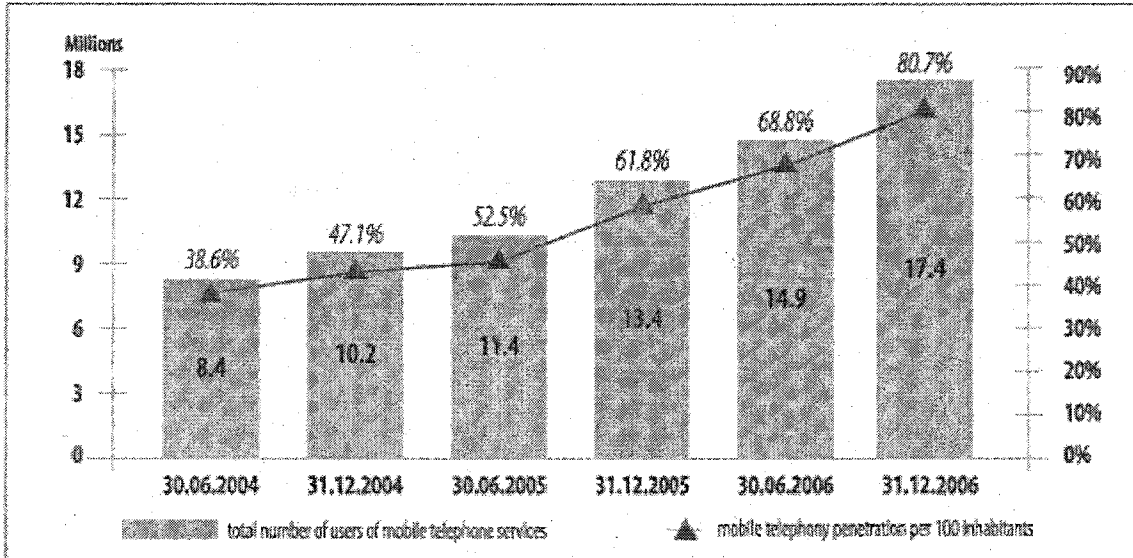
Source: ANRC

5.5 An additional indicator of the rapid rate of progress in the opening up of the telecom sector has been the growth in the number of internet service providers. By 2003 the number of internet providers had grown from negligible to 233. IEG noted that by 2006 this figure had grown hugely to 1,412 and that 78 percent of the providers were offering broadband (see also Annex B). VoIP became available even before the project closed, and the price of international calls using voice telephony had decreased by

¹⁶ Romanian Telecom Market Overview, Roland Berger Strategy Consultants, Romanian Business Digest, 2007

between 35 and 40 percent at the end of 2003 in comparison to the previous year. However, the huge commercial boom in mobile systems (following international trends) went far beyond even the most optimistic predictions (see Figure 5.2). At appraisal (1998) the forecast was for 1.2 million subscribers by 2008, but by 2007 there were already over 17 million subscribers.

Figure 5.2 Total number of mobile telephone services users and penetration rate



Source: ANRC

5.6 As the ICR points out, although there were some 6.4 million mobile phones in use in 2003 the number of actual mobile phone users was lower (5.6 million) because some owners had more than one phone. In other words the mobile penetration rate (percentage of the population with phones) was 25 percent in 2003, but as can be seen from Figure 5.2 above, it had grown to nearly 81 percent by 2006. As the market matures the rate of increase can be expected to slacken off.

5.7 It is difficult to separate benefits specifically attributable to the project from those due to the implementation of GOR strategy. The project was not the principal driving force behind the transformation of the telecom sector, but it did perform the role (as the ICR puts it) of a timely “enabling instrument” to assist the GOR during this period of continual change. Through ongoing reviews and discussion it also helped move the project forward at a time when the EU had misgivings about the rate of progress partly due to a change in government. The Bank also provided substantial technical assistance for regulatory development, and through supporting the appointment of privatization advisors.

5.8 It should be noted that despite funding a consultancy through the Japanese grant facility on options for privatizing Rom-radiocom, which, strictly speaking, falls outside the scope of the objectives of this project, this company is still fully-owned by the state, despite repeatedly declared intentions to follow through with privatization promises. Rom-radiocom owns substantial microwave network infrastructure that could put it in a position to offer serious competition to Romtelecom.

5.9 *Objective ii) National Spectrum Management System: to provide the necessary infrastructure to maximize the productive use of the radio frequency spectrum and to improve frequency assignment criteria for further expansion of wireless communication services provision by the private sector. Modestly achieved:* When the ICR was prepared in 2004 most of the main components of the NSMS had been installed (and were operational), but serious deficiencies in system performance were still evident. This resulted in an unsatisfactory ICR rating for this objective; this was partly because the system was producing an unacceptably high rate of false positive signals (indicating a problem existed when this was not the case), and partly because the financial and administrative modules were not yet in use. Moreover, the system as a whole had not been operated and tested and the high frequency station had not been installed due to zoning issues on the land earmarked for the equipment. These problems had largely been overcome (using own funds) by the time the IEG mission assessed the situation in May 2008, but clearly the substantial delays in bringing the NSMS to a fully operational status diminished the flow of benefits the system was intended to provide—in the interim, some private firms had developed at their own expense some functionalities that NSMS had not been providing to ensure that interference on the frequencies they were using was minimized. For this reason the level of achievement is rated modest.

5.10 This said, the system was partially beneficial to the users in the interim. The NSMS detected many cases of illegal spectrum use leading to appropriate actions to rectify the situation. The system was undoubtedly much more effective than the manual system used previously, and both service operators and regulators interviewed confirmed that, given the enormous increase in the use of the spectrum, an acceptable level of quality could not have been maintained with the previous system and practices. ANRC was able to validate the existing license database against actual use, identify unoccupied frequencies, and thereby was able to ease the crowding in certain frequency bands. According to GICIT data in 2002 the NSMS was utilized 178 times in detecting frequency interference, 3,850 times in monitoring compliance with license authorization, and 6,206 times for processing license applications. More recent figures were not provided to the IEG team, but current figures should be much higher given the growth in the industry. All licenses issued also now comply with the international protocols for cross-border cooperation.

5.11 *Objective iii) Support GICIT in performing regulatory functions over all networks and services in the telecom sector. Substantially achieved* The project provided critical support through the RDP to MOCIT and ANRC for the development of an EU-compliant legal framework. This sector framework laid down conditions of access to public communications networks and interconnections between networks. It thus enabled Romania to achieve provisional agreement on the EU *acquis communautaire* in November 2002, following which the Bank supported the refining of the law permitting ANRC to be created and to commence operations in September 2002, some three months before the deadline for deregulation. There was also a contract for Spectrum Engineering and Management Support (SEMOS) for preparation of a spectrum policy and strategy plan, the preparation of operational procedures, and specialized on-site training. Though delayed due to disruptions caused by reorganizational and change of mandate issues, the work was eventually substantially completed.

5.12 Capacity building envisaged under this objective also took place, but in the event was funded from non-Bank sources, because of the availability of grant funding as opposed to loan funds. USAID, for example, provided considerable training to ANRC and MOCIT (valued at US\$ 0.5 million), on the structure of regulatory agencies, their role in the marketplace, and required staffing. A study tour for six top regulatory officials was also included. Specialized advice and assistance was also provided under the EU-PHARE program covering overall agency operations, the implications of economic concentration and competition, access to networks and interconnections, and facilitating access to facilities shared by multiple operators (such as transmission towers, and rights of way). Some of these items of technical assistance may have been carried out a little differently than had the Bank funded them, but overall the capacity of the agency was still substantially strengthened.

Efficiency

5.13 The project should have closed on December 31, 2002, but this date was extended to June 30, 2003 due to the proliferation of design changes. The full implementation of the NSMS was further seriously delayed beyond loan closure because of system operational problems (explained more fully in section 3), and difficulties in obtaining zoning approval for the high frequency station. As with other similar telecom projects no economic rate of return was calculated, but there is no doubt that the delays diminished the benefits that the system was intended to provide. This said, however, it is clear that it would not have been possible to properly expand the telecom industry in Romania without the NSMS, which was clearly much superior to the previous manual system. GICIT data showed that the NSMS was well utilized (see par. 5.11 for more details). Overall efficiency was **modest**.

Outcome

5.14 The overall outcome is **moderately satisfactory**, which takes into account the achievement of the individual development objectives, together with a high rating for relevance and a modest rating for efficiency. Although two of the development objectives were substantially achieved the objective related to the NSMS infrastructure, which utilized by far the bulk of the loan, was only modestly achieved. In the case of the training aspects the objective was achieved, but not through using Bank resources.

Risk to Development Outcome

5.15 The risk to development outcome is **negligible to low**. ANRCTI is functioning effectively and funded independently using fees levied on the operators. Romania has complied with the terms of accession (including requirements in respect of telecom and information technologies) and been admitted to the EU. It is also in full compliance with the requirements of both WHO and ITU and has graduated to a level where it is highly unlikely to reverse reforms achieved. Liberalization of the sector has, moreover, brought in several vigorous private firms contributing significant capital flows. The presence of these firms is likely to build popular support for further reform, and thus this transformation is highly unlikely to be reversed.

Bank Performance

5.16 *Quality at Entry:* In general the project was adequately designed, although the equipment procurement costs were overestimated resulting in an initial cancellation of US\$7.0 million. The risk of the client using grant funding from other financiers for technical assistance was also not mentioned. Quality at entry was on balance satisfactory albeit marginally so.

5.17 *Quality of Supervision:* During the first year, the QAG Quality of Supervision Assessment Report rated the project as satisfactory and there is no doubt that the supervision team tried to coordinate with other stakeholders such as the EU and USAID. The assistance with the legal regulatory framework also proceeded well for the most part. However, after the first year the relationship between the implementing agency and the Bank in respect of the NSMS was a difficult one. The Bank team did not succeed in reaching an agreement on the issue of design changes, nor on the scope of support for the envisioned laboratories and workshops. It also did not succeed in persuading the GOR to establish a single regulator, (although in the end the GOR had to adopt this model prior to EU accession). When problems arose during implementation the Bank was proactive, but did not succeed in assisting the agency to accelerate implementation progress. When the loan was closed only 45 percent had been expended. While some of these shortcomings were due in part to factors beyond the Bank's control, project completion took much longer than had been planned. Bank performance during implementation was moderately satisfactory and overall, Bank performance was **moderately satisfactory**.

Borrower Performance

5.18 During preparation the GOR was very active and helpful. For example, the then Minister of Communications played an active role in the project design and concurred with the Bank in the need for a single regulatory agency. In this period the groundwork for Romtelecom privatization was successfully carried out. However, after a change in government the commitment to a single regulatory agency changed. For about two years there were tensions between GICIT and MOCIT because of uncertainties in respect of the mandate and regulatory architecture. This led to delays in building-up the necessary capacity to move forward, and which led to slower project progress. Performance was moderately satisfactory.

5.19 The implementing agency's (GICIT) mandate changed several times during the course of the project. It was somewhat inflexible in approach, insisting against Bank advice on extensive design changes (for which it utilized its own funds), and this accounted in part for delays to the project. The implementing agency also changed the scope of the facilities for the regional laboratories and workshops. Indeed, some of the equipment that had been planned for this subcomponent had been already purchased under a separate contract (not Bank-financed). Taking into account the fact that the implementing agency was also unable to quickly resolve deficiencies in system performance and did not fully utilize the expertise of the project management consultants (Teleplan), overall performance was moderately satisfactory.

5.20 The overall borrower performance was **moderately satisfactory**.

6. Broader Issues Arising from This Evaluation

6.1 Although differing in scope this project is remarkably similar in design to the Telecommunications Sector Reform Project in India,¹⁷ a project that was also recently assessed by IEG. Both projects aimed to promote private sector investment and strengthen the policy and regulatory environment. Both projects also involved the procurement and installation of an automated spectrum management system and a national spectrum monitoring system.

6.2 Interestingly, in both cases the equipment supply and installation costs were seriously over-estimated and only 46 percent of the Indian loan and 45 percent of the Romanian loans were disbursed. In both cases the quality of some of the equipment supplied was not acceptable, and in both cases the projects were seriously delayed and land acquisition or planning permission was a problem at some sites. There was also a common reluctance to fully utilize project management consultants appointed to assist in supervision. On the other hand in both instances the strengthening support given to the policy and regulatory framework in a rapidly changing environment was clearly successful. Indeed, in circumstances where the technology and costs are changing rapidly, local expertise is available, and where there is a low incidence of market failure, the Bank could be more selective when deciding whether to finance such physical components. On the other hand, the emphasis on the technical assistance support remains effective and appropriate.

6.3 The implications of this feedback suggests that in telecom project design more thought needs to be given to project costing, manufacturing requirements of bidders for the supply and installation of telecom equipment, and appropriate utilization of project management consultants.

7. Lessons

7.1 The following important lessons can be gleaned from the assessment of this project:

- In the telecom sector and in the Romania Telecommunication Reform and Privatization Project, where the frontier of technology is moving at a rapid pace, it is advisable to build a degree of flexibility into project design and supervision to accommodate at least some of the new applications that may become possible during implementation.
- Project design of telecom projects such as the Romania Telecommunication Reform and Privatization Project involving equipment procurement and installation should give more attention to risks in project cost estimation and assessment of bidders for the supply and installation of telecom equipment.

¹⁷ India: Telecommunications Sector Reform Technical Assistance, Project Loan 4555-IN.

Supervision should help ensure that appointed project management consultants are fully utilized.

- While it is important for the Bank to focus on technical assistance aspects of telecom projects, such as support for training and for the development of the policy and regulatory frameworks, it is also essential to ascertain potential support for such components from other international financial institutions and agencies to eliminate duplication of resources, as occurred in the Romania Telecommunication Reform and Privatization Project.

Annex A. Basic Data Sheet

TELECOMMUNICATIONS REFORM AND PRIVATIZATION SUPPORT PROJECT (LOAN 4319-RO)

Key Project Data (amounts in US\$ million)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	44.00	29.74	67.59
Loan amount	30.00	13.55	45.17
Co-financing	-	-	-
Cancellation	-	16.45	-

Project Dates

	Original	Actual
Negotiations	02/23/1998	02/23/1998
Board approval	04/28/1998	04/28/1998
Signing	05/29/1998	05/29/1998
Effectiveness	09/29/1998	09/21/1998
Closing date	12/31/2002	06/30/2003

Staff Inputs (staff weeks)

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US\$ ('000)
Identification/Preparation	-	100.0
Appraisal/Negotiation	-	90.0
Supervision	-	409.2
ICR	-	20.6
Total	-	619.8

Mission Data

	<i>No. of persons</i>	<i>Specializations represented</i>	<i>Performance Rating</i>	
			<i>Implementation Progress</i>	<i>Development Objective</i>
Identification/ Preparation				
12/1996	3	Team Leader (1); Telecom Specialist (1); Spectrum Consultant (1)		
2/1997	4	Team Leader (1); Telecom Sector Specialist (1); Regulatory Specialist (1); Privatization Specialist (1);		
Appraisal/Negotiation				
04/1997	5	Team Leader (1); Privatization Specialist (1); Telecom Specialist (1); Legal Counsel (1); Operations Officer (1)		
Supervision				
11/1998	2	Project Team Leader (1); Legal Counsel (1)	S	S
05/04/1999	3	Project Team Leader (1); Regulatory Consultant (1); Privatization Expert (1)	S	S
10/30/1999	3	Project Team Leader (1); Legal Counsel (1); Telecom Engineer (1)	S	S
06/15/2000	2	Project Team Leader (1); Operations Officer (1)	S	S
07/25/2000	4	Project Team Leader (1); Legal/Regulatory Specialist (1); Project Officer (1); Spectrum Consultant (1)	S	S
11/03/2000	5	Project Team Leader (1); Legal/Regulatory Specialist (1); Telecom Specialist (1); Project Officer (1); Spectrum Consultant (1)	S	S
06/28/2001	4	Project Team Leader (1); Spectrum Consultant (1); Project Officers (2)	S	S
07/16/2001	2	Project Team Leader (1); Legal Counsel (1)	S	S

09/21/2001	4	Project Team Leader (1); Legal Counsel (1); Spectrum Consultant (1); Project Officers (2)	S	S
05/16/2002	1	Frequency Spectrum Specialist (1)	S	S
06/24/2002	4	Project Team Leader (1); Legal/Regulatory Specialist (1); Project Officer (1); Spectrum Consultant (1)	S	S
09/24/2002	5	Project Team Leader (1); Legal/Regulatory Specialist (1); Project Officer (1); Spectrum Consultant (1); Legal Counsel (1)	S	S
04/11/2003	2	Legal Counsel (1); Radio Frequency Specialist (1)	S	S
ICR				
11/14/2003	1	Consultant (1)	S	S

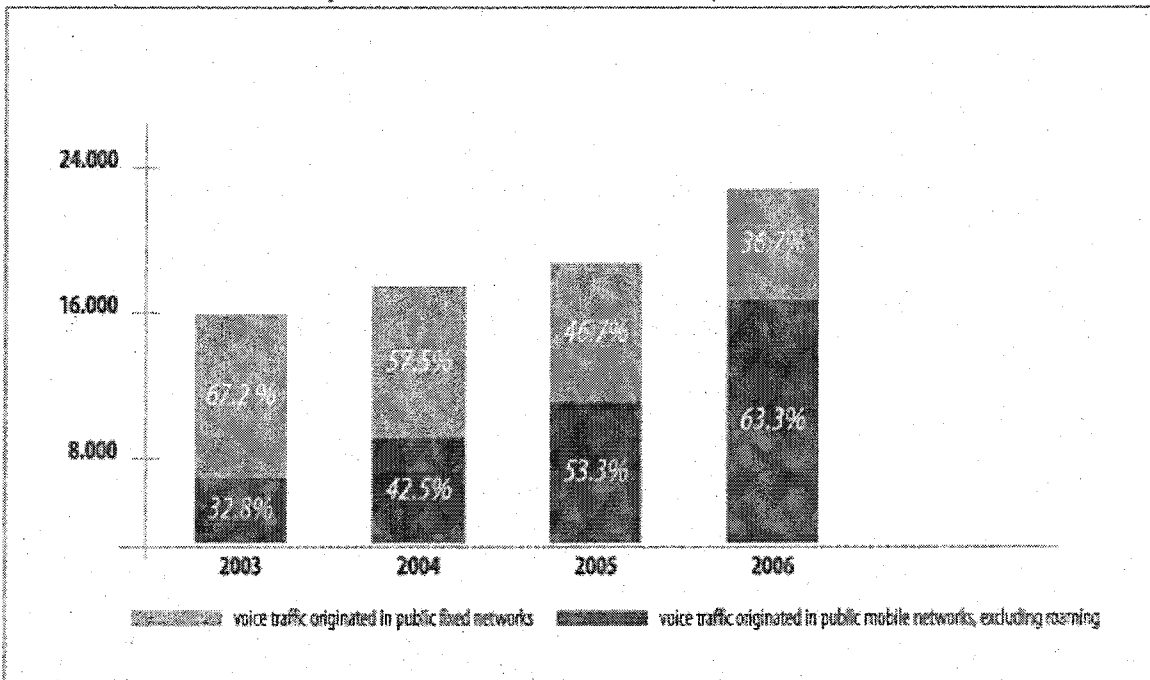
Annex B. Romanian National Regulatory Authority for Communications and Information Technology: Statistics

Table B-1 Active service providers as of December 31, 2006

Categories of services	Active providers
Fixed telephone networks and services	95
Mobile telephone networks and services	4
Internet access services	1,412
Leased lines services	30
Data transmission services	65
Services for the re-transmission of audiovisual programmes	631
Total	2002

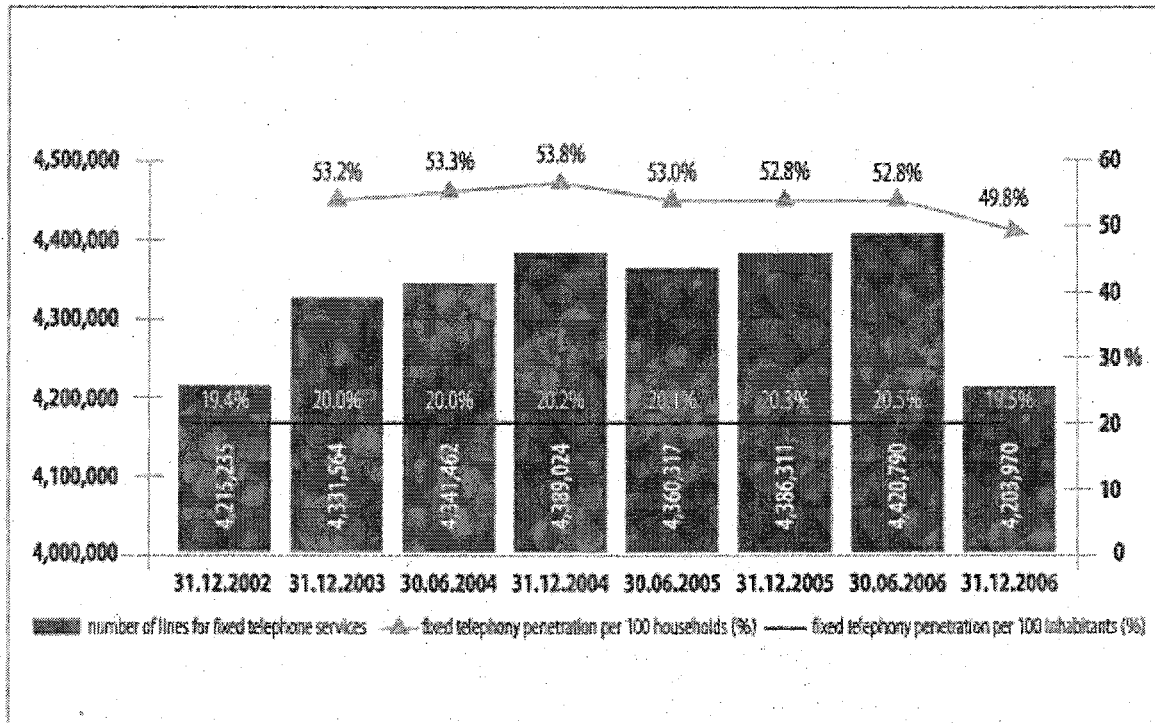
Source: ANRC

Figure B-1 Comparison of the weight of voice traffic originating in public fixed networks and public mobile networks, between 2003 and 2006



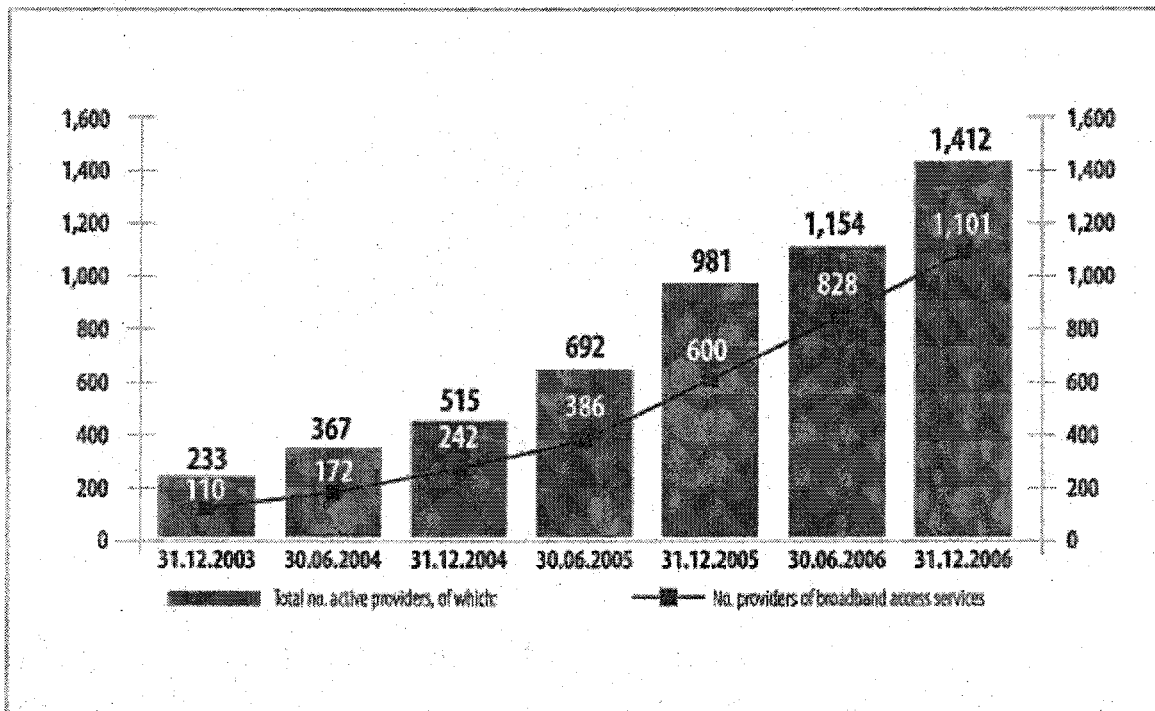
Source: ANRC

Figure B-2 Number of lines for fixed telephone services Penetration rate



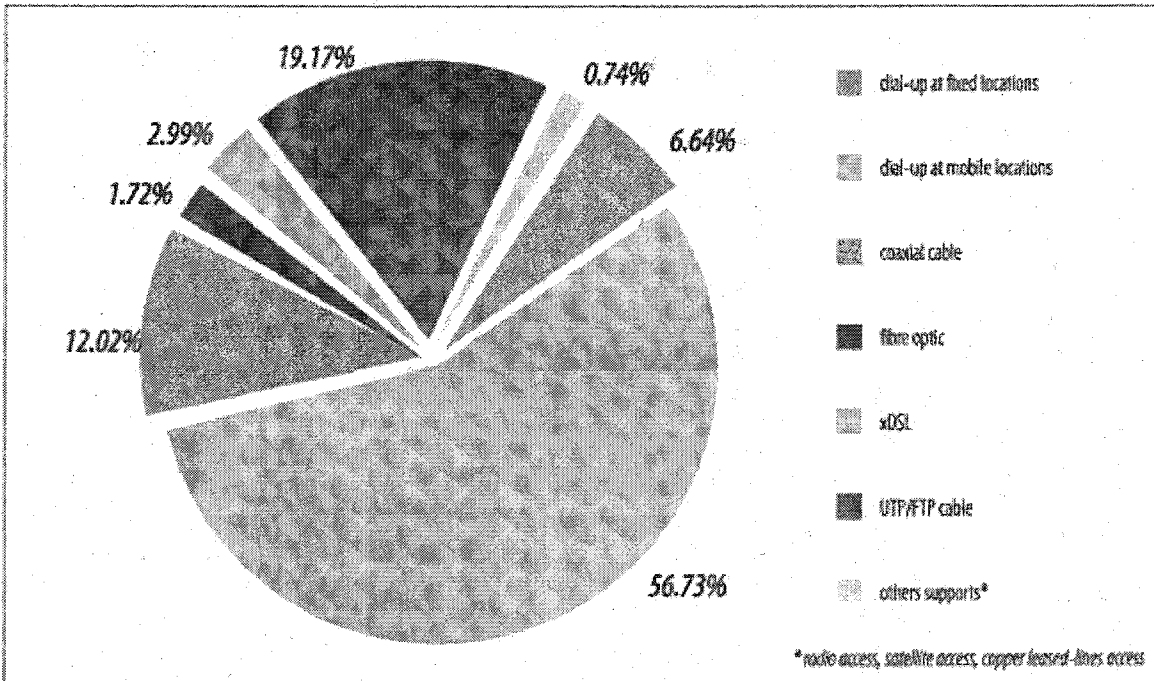
Source: ANRC

Figure B-3 Evolution of the number of active providers of Internet access services



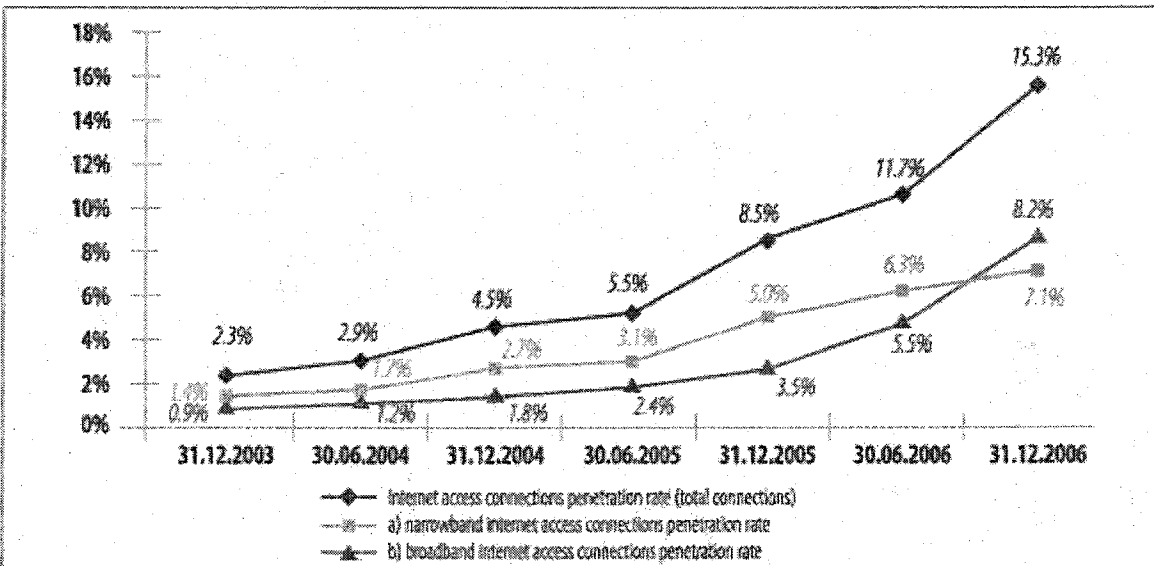
Source: ANRC

Figure B-4 Structure of the total number of Internet access connections, itemized by support - December 31, 2006



Source: ANRC

Figure B-5 Penetration rates of the Internet access connections per 100 inhabitants according to the bandwidth used



Source: ANRC

