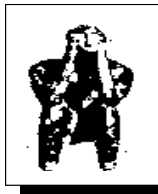


**ROMANIA:
AN ASSESSMENT OF THE LISBON SCORECARD**

March 2004



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Contents

Introduction

I Romania and the Lisbon Process

II An assessment of the Lisbon scorecard for Romania

- A. Innovation and research
- B. Liberalization
- C. Enterprise
- D. Employment and social inclusion
- E. Sustainable development

III Indicators of the Lisbon Scorecard

IV Conclusions

References

INTRODUCTION

The Lisbon Agenda is an attempt by EU member governments to respond to the new challenges posed by globalisation against the backdrop of new information and communication technologies (ICTs). That this response is hard to formulate institutionally and policy-wise is not surprising; what catches the eye is the large variety of policy effectiveness among the EU member countries. Some of them, especially, in the Nordic fringe (Denmark, Sweden, Finland) evince spectacular results, which combine more market flexibility with better regulation and active labour market policies and, last but not least, measures to increase R&D expenditure (in both the private and public sectors) and enhance investment in human capital (education). And vice-versa, countries which have fared poorly in these policy directions (such as France, Germany, Italy) are lagging significantly behind regarding the Lisbon Agenda. For the EU as a large economic space the lessons to draw should not rely on oversimplifications. It is clear, nonetheless, that both market-oriented reforms and more effective public policy involvement are needed in order to cope with the challenge of competing in the world economy.

For accession countries the challenge is, fundamentally, the same, but some significant nuances are to be highlighted. For economies which embark on catching up trajectories technology assimilation (diffusion) is considerably more important for productivity gains and, further, for high economic growth rates. This is the glamorous experience of several Asian economies and of Ireland in Europe in recent decades. One can go more deeply into history and underline similar experiences. Arguably, this is what should be expected from Central and East European countries in the decades to come. But this presupposition would be reinforced by clever public policy, which would favour market flexibility with effective regulations and adequate investment in human capital. When it comes to wise policies theoretical fundamentalism should be put aside.

There are major differences among accession countries with regard to competitiveness. Despite substantial progress achieved in recent years, Romania is still lagging behind macro-economically and in terms of structural reforms; this is why the country is expected to join the Union in 2007 provided overall advance is adequate by that time.

Progress reports on how accession countries respond to the Lisbon Agenda stimuli have been produced in the ten countries which are to join the union in May 2004. The Group of Applied Economics (GEA), which is part of the Romanian Economic Society (SOREC), was eager to undertake a similar kind of assessment. This paper is not a piece of scientific research, per se, be it of an applied nature; it is a simple exercise in trying to compare the Romanian economy in areas related to the Lisbon agenda. Some of the methods used can be disputed and some of the data may not be the most relevant, but we hope that this endeavour will continue in refined forms. The report was undertaken on a very short notice and follows a topic structure suggested by a CER analysis¹. Explicit policy inferences are not made in this report, but this venue should be explored in other works.

¹ Murray, A. (2004), The Lisbon Scorecard IV. The status of economic reform in the enlarging EU, Centre for European Reform, London;

The report is structured as follows: section I briefly addresses the Lisbon process and the significance of Lisbon targets for Romania; section II presents an assessment of Romania's compatibility degree with Lisbon targets, divided into five areas of interest; section III summarizes the results of that assessment in a scorecard.

I. ROMANIA AND THE LISBON PROCESS

What is the Lisbon process?

The Lisbon process aims at transforming the European Union into the most competitive and dynamic knowledge-based economy in the world.

The Lisbon European Council in 2000 set a ten years target for the EU: to become the most competitive and dynamic knowledge-based economy in the world. To this end, the Lisbon Council launched a series of political initiatives (ECa, 2003):

- Further consolidation and unification of the economic environment through:
 - a complete and fully operational internal market;
 - efficient and integrated financial markets;
 - macroeconomic policy co-ordination: fiscal consolidation, quality and sustainability of public finances.

- Stimulating the creation, absorption, diffusion and exploitation of knowledge through:
 - the creation of a European Area for Research and Innovation;
 - enhanced education and training for living and working in the knowledge society;
 - encouraging the start-up and development of innovative businesses.

- Better working conditions, social protection and cohesion through:
 - an active employment policy;
 - an information society for all;
 - modernizing social protection;
 - promoting social inclusion

It was also agreed to hold every spring a meeting of the European Council, in order to monitor the progress in the implementation of these policy actions. One of these spring meetings, Barcelona 2002, institutionalised the Lisbon process by setting a benchmark to be reached by 2010: 3% of GDP to be spent on research, two thirds of which by the private business sector. Other decisions taken in Barcelona, that helped institutionalising the Lisbon process, focused on establishing a European Research Area, developing the 6th Framework Programme, encouraging mobility for researchers, enhancing lifelong learning, establishing three priority areas – employment, connecting Europe and connecting markets, and knowledge.

The importance of the Lisbon targets for Romania

The targets set by the Lisbon and subsequent European councils are not compulsory in the sense that failure to comply with them does not attract direct negative consequences of an administrative nature. Romania's tentative date for EU accession is not in danger from the Lisbon targets. Yet, Romania's coherent development within an enlarged EU may be at risk, in the medium and long run.

A question such as: “Why is important for Romania to comply with the Lisbon targets?” may be a rhetoric one, but, as the topic of this report is new for Romania, the answers cannot be over-emphasized.

Summarizing the policy actions pending to the Lisbon process, two arguments can be highlighted; this enumeration is, however, not exhaustive.

- The investments in education, technology transfer, research and development, and innovation are main complements to macro-economic stability; in a transition economy, like Romania, they may even represent the pillars for achieving long-lasting, sustainable economic growth in the future.

The Lisbon agenda is not compulsory, but for Romania it should be a priority, as it provides the guidelines for a coherent economic development.

Over the last decade, Romania has experienced a rather turbulent macroeconomic history, with episodes of recession (1990-1992; 1997-1999), recovery (1993-1996) and growth (2000-2003). Disinflation is making progress, but the inflation rate is still written with two digits; unemployment is low compared to other economies in the region, but this owes, on the one hand, to hidden unemployment in the state sector and in subsistence agriculture and, on the other hand, to emigration of a part of the working population. The budget deficit is within Stability Pact’s limits, but the quasi-fiscal deficit has almost the same size, putting pressures on budget revenues and on inflation.

Key macroeconomic indicators

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
GDP real growth	1.5	3.9	7.1	3.9	-6.6	-5.4	-3.2	1.6	5.3	4.9	4.9
Inflation Dec/Dec	295	61.7	27.8	57	151	40.6	51.4	40.7	30.3	17.8	14.1
Unemployment	10.4	10.9	9.5	6.6	8.8	10.3	11.5	10.5	8.6	8.1	7.6
Gross fixed capital formation, % GDP	17.9	20.3	21.4	23.0	21.2	18.2	17.7	18.9	20.5	21.1	23.5
Current account deficit/GDP	4.5	1.4	5	7.2	6.7	7.5	3.8	3.7	5.5	3.4	5.6
Budget deficit/GDP	2.6	4.2	4.1	5	3.6	2.8	2.5	3.6	3.1	2.5	2.4
Total medium and long term foreign debt/GDP	12.7	15.1	15.4	20	22.4	24.4	24.6	25.5	30.2	30.2	30.2

Source: adapted from NBR statistics

How can the Lisbon process contribute to macroeconomic stability in Romania? First, it would reduce the trade deficit (and the current account deficit over the longer view). Domestic research and innovation helps increasing the local content of domestic production, therefore diminishing the need for imported technology and equipments; it would also help increase value added in domestic output, in export-oriented activities. Second, better access to education and knowledge can help increasing

saving and investing behaviour (as opposed to simple consumerism), on the one hand, and, on the other hand, supports a dynamic life as an employee (increases employees' mobility). Third, active employment policies and social inclusion are in the same line of addressing unemployment. Fourth, support for start-ups can only improve the business climate and spur gross domestic capital formation.

- The investment in research and development, and innovation in particular, are key to changing Romania's current development paradigm.

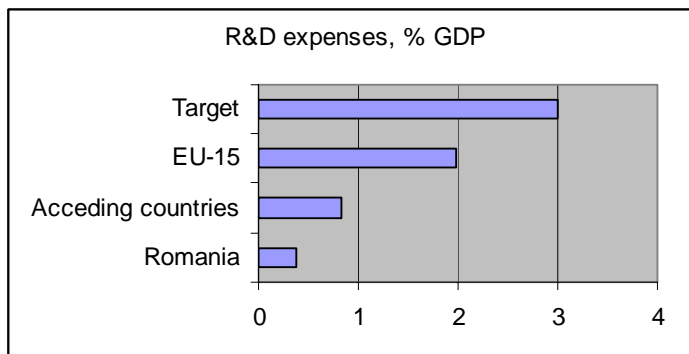
This paper quotes various studies describing the following current situation in Romania: technology is mainly imported, not locally created; foreign capital firms are promoters of R&D in Romania, in the form of technology transfer; this technology transfer is nevertheless employed for less value added products and the technology imported is in many cases not one of last generation by international standards; export products compete on price, not on innovation. E.g., Caceres et al (2002), using the unit value of products as proxy for quality, found that only 18% of Romania's exports were embedding high technology (lowest ratio in the region); that ratio was nevertheless almost double than a decade ago.

An assessment of Romania's performance

This report offers the first assessment of Romania's compatibility degree with Lisbon's targets. The methodology follows CER² (2004), dividing the Lisbon process in five areas of interest: innovation and research, liberalisation (of energy, transport and financial services), enterprise, employment and social inclusion, sustainable development and the environment. The assessment is based on a classic evaluation scale from A (best) to E (worst).

[This is the first assessment of Romania's compatibility degree with Lisbon's targets, using the methodology proposed by CER London.](#)

As one might have expected, Romania is not a great performer in these respects, as transition in Romania has lagged behind many of the other acceding economies. E.g., the level of R&D intensity is very low in Romania, compared to the EU average, and even to the acceding countries average (the 12 countries), not to mention the Lisbon target.



² Centre for European Reform, based in London;

R&D intensity is an indicator of knowledge creation. The number of researchers or the number of patent applications are also indicators of knowledge creation – and Romania seems to score low on this category of indicators, albeit this should not be surprising in view of the low level of economic development.

However, some improvement can be observed regarding knowledge diffusion indicators:

- gross fixed capital formation has increased for the last five years in a row;
- the number of internet users almost doubled in only one year (2002 against 2001);
- the e-government concept is quite advanced.

The technology transferred through inward direct investments fits also in the category of knowledge diffusion.

II. AN ASSESSMENT OF THE LISBON SCORECARD FOR ROMANIA

A. Innovation and research

A I. Information society

While still lagging behind most of the other acceding economies, Romania has made significant progress in promoting new technologies specific for an information society in recent years.

Although it still lags behind many other European economies, Romania has made significant progress in developing an information society.

The number of internet users almost doubled in only one year (2002 against 2001), and the costs of using internet decreased, as the competition among internet providers intensified. The latest data in the table below refer to 2002, but in 2003 this competition became even fiercer due to the liberalization of fixed telephone communications – new market operators offer both services (fixed telephone lines and internet connections) in a package, at lower prices.

Internet penetration in schools has also improved, and there is a government programme (supported by the international financial institutions) aimed at introducing at least one computer in each school in Romania by the end of 2004.

Available ICT indicators for Romania

	2001	2002	Ranking in the world*
Quantitative indicators			
Internet users per 10,000 inhabitants	446.6	806.1	48 out of 102 economies; no acceding countries behind Romania, but Bulgaria and Poland very close
Cellular telephones per 100 inhabitants	17.2	28.5**	59 out of 102 (at 2001 data)
Qualitative indicators			
Internet access in schools, on a scale from 1-very limited to 7-most children have frequent access	3.3	3.8	45 out of 102 economies; higher than Bulgaria and Greece
Quality of competition among internet service providers (does it ensure high quality and low prices?), on a scale from 1-low to 7-equal to the best in the world	3.4	3.7	72 out of 102 economies; same ranking with Poland and very close to Bulgaria and Slovak Republic
Laws relating to ICT, on a scale from 1-nonexistent to 7-well developed and enforced	3.1	3.6	50 out of 102 economies; higher ranked than Bulgaria and Greece, and very close to Hungary,

			Poland, Lithuania and Slovak Republic
Government success in ICT promotion, On a scale from 1-not very successful to 7-highly successful	3.6	3.8	49 out of 102; higher than Lithuania, Hungary, Slovenia, Czech Republic, Slovak Republic, Poland, Bulgaria and Greece

*Cyprus and Malta are not accounted for in this ranking.

**According to the Ministry of Communication and Information Technology, *Annual Report 2003*;

Source: adapted from World Economic Forum, *Global Competitiveness Report*, 2002-2003 and 2003-2004 editions

The promotion of the IT sector, in particular, has been a priority for the Romanian government. One direction of action was to support this industry by cutting labour taxes for soft producers (the measure was initiated in 2001 and it is still applied, subject to a number of conditions regarding each company's turnover and number of employees). Another direction of action was to introduce the e-government concept, aimed at becoming fully operational by the end of 2004. Moreover, at year-end 2003, a number of taxes, personal and corporate alike, could be paid online. Finally, in the legal area, laws on electronic commerce and electronic signature were passed.

A number of local companies in the IT sector have extended their operations internationally. E.g., Softwin and Flamingo have now affiliates in other countries from the region and even from the EU; and Microsoft acquired GeCad, a local firm, for being able to sell worldwide an anti-virus designed by the Romanian company.

Regarding other aspects of communications, a major breakthrough was the full liberalization of the fixed telephone market in 2003 (for more details, see section B of this report). Following a historical state monopoly and a five years private monopoly (after the privatisation of the national operator in 1998), competition is heightening – although not at a fast pace. A more competitive market is that of mobile operators. There are four companies on the market, all of them with majority foreign ownership; among the foreign owners, two world leaders, Orange and Vodafone, are competing on the Romanian market. A recent estimate from these operators says that 7 millions Romanians (out of a 21.6 million population) use cellular telephones.

In several respects, some of which are presented above, the Romanian ICT market is dynamic and developing. Nevertheless, data from the EU Commission (Eurostat) indicate that the total ICT expenditure in Romania represented only 6.4% of GDP in 2003, on a downward slope from 8.6% in 2000, 7.6% in 2001, 6.8% in 2002. This levels are lower than the average for accession economies (8.4% in 2003), but comparable with the EU-15 average (6.2% in 2003).

A II. Research and development

- **Spending on human resources (public expenditure on education)**

The public expenditure on education is slightly above 3% of GDP, and it has varied around this level for most of the transition years. Nevertheless, the Law on education stipulates that the minimum level for public expenditure on education must be 4% of GDP. It is fair to say, however, that foreign funds add to the 3% share, to the extent that the 4% target is met.

- **Gross domestic expenditure on R&D (GERD)**

R&D intensity: GERD in Romania

	1998	1999	2000	2001	2002
% GDP	0.49	0.40	0.37	0.39	0.38

Source: INSSE (National Statistics Institute), 2003 and EU Commission, 2003

The R&D intensity in Romania is low; only 0.38% of GDP was allocated to the R&D activity, both public and private, in 2002. The fall of R&D expenditures after 1998 is due to a severe balance of payments adjustment programme, which involved a cut in government expenditure. Only lately an upward trend can be detected. The figure has varied little around this value for the last four years. By comparison, as of 2001, the EU-15 average was 1.98%, and the average for the acceding economies was 0.83. Among the acceding economies, Romania only exceeds Cyprus in this regard.

Romania still largely fits a factor-driven type of economy. Low cost labour is the dominant source of competitive advantage, and competition is on price, not on innovation.

and local firms produce goods designed in other, more advanced economies (assembling operations).

This unfortunate positioning suggests that, judged by Porter's stages of development, Romania still largely fits a factor-driven type of economy. Low cost labour is the dominant source of competitive advantage, and most intra-industry trade is of vertical specialization; therefore, competition is on price, not on innovation. Technology is mainly assimilated (through imports and foreign direct investments), not locally created,

- **Government expenditure on R&D**

Government financed R&D

	1998	1999	2000	2001	2002
% GERD	52.91	46.66	40.80	42.96	48.40

Source: INSSE (National Statistics Institute), 2003 and EU Commission, 2003

The government contribution is not very large: less than half of the total R&D activity was financed from public funds – not only in 2002, but also in the last four years. By comparison, the EU-15 average was 34.25% (for the year 2001), and the average for the acceding economies was 52.8% (for the year 2000). The Lisbon target is that government funding of R&D should represent one third of total GERD. From this perspective, Romania is closer to this target than most of the other acceding economies: Bulgaria, Cyprus, Estonia, Hungary, Lithuania, Latvia, and Poland.

The explanation, however, is less the country's capacity to externalise R&D costs to the private sector, and rather the need to comply with public budget's limitations.

Government spending on R&D typically includes state aid for R&D. In the case of Romania the share of state aid for R&D in total public spending on R&D is however very limited (see table). In the future, there is a potential for increasing government spending for R&D; this potential comes from the need to change the destination of state aid in favour of R&D and other horizontal objectives.

Total and R&D state aid in Romania

	1998	1999	2000	2001
Total state aid, million Euro	1200	1500	1600	2800
State aid for R&D, million Euro	1,5	5,6	8,8	7,4

Source: Competition Office (2003)

One critical aspect here is the role and efficiency of the government sponsored research institutes. They have the lion share in the government expenditure on R&D, although the nominal value of this financing is low. At the European level, the government sponsored research institutes currently face a series of challenges (Cox et al, 2001):

- changing their relationship with other actors in the innovation system, including universities;
- renewing equipment and supporting research careers;
- commercialising the results of their research;
- adapting to a system of measuring and evaluation of results;
- changing the model for organizing research.

Confronted with these challenges, the vast majority of the government sponsored research centres in the EU are now carrying out applied research (EC, 2003a). An investigation into whether such government sponsored research institutes are moving in the same direction might prove useful in Romania. When the government has very limited sources for funding research, two actions should be taken:

- first, to look into the efficiency of allocating those funds, with the aim of increasing the replication effects in the economy.
- second, to encourage the business expenditures on R&D, and to find ways to channel these business expenditures in the directions deemed desirable by the government.

- **Business expenditure on R&D**

Business financed R&D

	1998	1999	2000	2001	2002
% GERD	42.35	50.21	48.96	47.60	44.60

Source: INSSE (National Statistics Institute), 2003 and EU Commission, 2003

The relative level of business financed R&D is not as low as some may have expected. By comparison, the EU-15 average was 55.94% (for the year 2001), and the average for the acceding economies was 41.07% (for the year 2000). The Lisbon target is that business investment in R&D should represent two thirds of total GERD. From this perspective, Romania looks again closer to this target than most of the other acceding economies.

The bad news is the negative dynamics of the business contribution to R&D in Romania: the slope has been moving downward for the last four years. One possible explanation is linked to the lack of access to financing: in the business sector, only 1.4% of the R&D activity is financed by loans.

A notable development, however, is the dominant share of foreign capital firms in the R&D activity in Romania. A recent econometric study using a large panel of data from eight acceding economies (Damijan, Majcen, Knell, Rojec, 2002) found that, in Romania, FDI represents an important channel for technology transfer (like in the Czech Republic, Estonia, Poland, Slovenia) and, most importantly, that the R&D activity is concentrated in foreign firms (like in Bulgaria, Czech Republic, Estonia, Slovak Republic).

This may be linked, however, to the local firms' incapacity to finance their R&D activity, and to a certain complacency with the subcontractor position -as many local firms only make assembling operations, particularly in the two largest export-oriented industries, clothing and machines and equipment. E.g., in clothing, more than 70% of total export-oriented production is realized under lohn arrangements. In the machines and equipment sector, also, there are only few examples of companies moving to advanced stages of production such as original brand manufacturing or original design.

- **R&D financed from abroad**

R&D financed from abroad

	1998	1999	2000	2001	2002
% GERD	1.74	2.46	4.90	8.20	7.0

Source: INSSE (National Statistics Institute), 2003 and EU Commission, 2003

The 7% share is comparable to that of EU-15 average (7.65% for the year 2001) and higher than the average for the acceding economies (4.43% for the year 2000). Bulgaria, Czech Republic, Lithuania, Poland, Slovenia and Slovakia have lower shares than Romania in this respect.

The share of R&D financed from abroad is important for Romania mainly as far as academic research is regarded: the funds from abroad represent 16.5% of the total R&D financing in the tertiary educational system in Romania. However, there is a poor link between university research and industrial applications (according to World Economic Forum).

- **An alternative calculation of GERD including the IT industry**

The official statistics' methodology when accounting for the R&D activity appears quite restrictive: it includes 279 specialized R&D units, 166 firms that have a specialized R&D department with at least 8 employees, 78 agricultural research units, and 84 academic units.

We feel that the business sector is not fully accounted for in this methodology. Numerous firms might have undertaken small-scale R&D activities, without proper

recording of them, or in the absence of a specialized R&D department. This R&D activity is, indeed, very difficult to estimate and aggregate, mainly because accounting standards do not require any special “R&D costs” chapter on the expenses side of the balance sheet. Nevertheless, there is one sector of the economy that is intensive in innovation and that must be considered in the calculation of GERD: the IT sector. In fact, this sector records the highest number of patents worldwide.

In Romania, soft producers are by far preponderant among IT producers. The R&D activity in this sector is largely not included in the official statistics, because the firms in this sector do not usually have specialized R&D departments, and they do not identify the R&D costs separately in their balance sheets. The total number of firms in this sector is 4166, with 16337 employees (we excluded 4 state owned firms from this calculation, given the risk of overlapping with the publicly funded R&D).

Alternative calculation of R&D expenditures, including R&D from the IT sector

	GERD, % GDP	Government expenditure, % GERD	Business expenditure, % GERD	R&D financed from abroad, % GERD
2001	0.56	29	65	6

Source: based on data from INSSE, 2003

This sector is intensive in human capital, which is the main factor of production for R&D. In the absence of specific data on R&D costs, we used gross labour costs as a proxy for R&D costs. We accept this is a very rough estimation, and we do not say that figures in the table above are fully accurate³. But, arguably, they reflect better the R&D activity in Romania than the figures provided by the official statistics (which do not account soft producers). From this perspective, the business sector dominates the picture, and it even complies with the “two thirds” Lisbon target.

- **Workers employed in research**

Regarding the number of tertiary graduates in science and technology, Romania lags behind all acceding countries, except for Czech Republic on female tertiary graduates.

Number of tertiary graduates in science and technology

	Total tertiary graduates in science and technology per 1000 inhabitants aged 20-29	Female tertiary graduates in science and technology per 1000 of female population aged 20-29	Male tertiary graduates in science and technology per 1000 of male population aged 20-29
2001	4.9	3.5	6.2

Source: INSSE, 2002

³ For instance, it can be argued that outsourcing activities in the IT industry cannot be considered as innovative. According to Mircea Vuici (2003), “in 2002, the volume of offshore outsourcing represented 43% of the total software production”, whereas the same author estimates that approximate 38% of the software workers are pursuing outsourcing activities. However, in the current status of the Romanian economy, even outsourcing activities may be assimilated with R&D, as they contribute to business development and know-how transfer;

This situation should not be surprising: the gross tertiary enrolment rate (irrespective of specialization), is –at 24.4- also the lowest among acceding countries.

Regarding the population employed in R&D activities, the number of R&D employees (excluding the auxiliary personnel) was 38,433 – or 0.83% of the total employees in the Romanian economy (at year-end 2002). However, if one would add the number of employees in the private IT sector, then the R&D employees’ share in total employees exceeds 1%. The share of females in total R&D employees was 46.35%.

- **Patent applications**

Romania’s international patent applications and patents granted

	Number of patent applications to the European Patent Office (EPO)	Number of patents granted by the United States Patent and Trademark Office (USPTO)
latest year available	2001	2002
per million inhabitants	2.08	0.13

Source: EPO and World Economic Forum

The number of patent applications and patents granted is low, indeed, and it places Romania again behind the other EU candidate countries. A series of possible explanations could be submitted:

- the low level of resources allocated to the R&D activity (low GERD).
- the current stage of development of the Romanian economy, where technology is mainly assimilated, not locally created.
- the low level of inter-relatedness between the Romanian economy and the EU market, which made local patent owners unwilling or unable (also given the costs and procedures required) to register their patents abroad. This situation might nevertheless change in the next years, as institutional convergence advances.
- the low level of university/industry cooperation regarding the implementation of R&D results.
- the fact that multinationals may incorporate local R&D activity in patents applications registered by their affiliates elsewhere. While such practice is common for multinationals around the world, it may have an unbalanced result in Romania, because Romanian outward foreign direct investment is very limited.

B. Liberalization

B I. Telecommunications and utilities

- **Telecommunications**

The Romanian telecommunication market became fully liberalized on January 1st, 2003 with the end of the monopoly of RomTelecom, previously maintained through the RomTelecom Privatisation Act for fixed-telephony services (local, national and international) and leased telephony lines. The process of adapting and implementing the provisions of the EU New Regulatory Framework for Electronic Communication Services (Directives 2002/19/EC-2002/22/EC and Directive 2002/58/EC) is ongoing. The National Regulatory Authority in Communications (NRAC) was created for this purpose and is in charge for identifying the relevant markets in the electronic communication sector in Romania.

The recent liberalisation of the telecomm market is expected to have a positive impact on the tariffs and penetration rates of telephony services.

For the market of *unbundled access*, full or shared, to the local loop, NRAC has issued several decisions. RomTelecom was designated as an operator holding significant power and the obligations to be imposed on RomTelecom in relation to granting unconditional access to the local loop were established. The tariffs established by NRAC (1.15€cents for peak hours and 0.90€cents otherwise) are below the average of the similar tariffs from other EU countries that have liberalized the electronic communication market. (According to the third IBM Report, published in June 2003, the average local inter-connection tariff in EU is 0.77 €cents. In candidate countries, this average is of 1.4 €cents). The interconnection tariffs for ending calls from fixed to mobile telephony are now below the average of member and candidate countries.

The liberalisation of the fixed telephony market is expected to impact more on the mobile telephony prices and penetration rates than directly on the fixed telephony prices and penetration rate. At a low penetration rate of the fixed telephony, the potential clients are more likely to choose the developing mobile communication means than to switch to an alternative operator of fixed telephony.

Nevertheless, up to 29th of March 2004, the National Regulatory Authority for Communications (NRAC) authorized 185 companies to enter the market as providers of telephony services.

The break down of companies authorized to provide telephony services according to their targeted market segments is as follows: 137 - local call segment, 143 - long distance call segment, and 162 - international call segment. A number of 82 companies intend to install a public phone and 63 companies will provide ISDN services.

In December 2003, the first alternative fixed telephony service was launched by Astral Telecom Cluj-Napoca, beginning with four cities (including Bucharest). The services provided are in average 30% cheaper. More projects are expected to be implemented in 2004. Government is taking the lead in catalysing the competition, by

creating joint companies that will enter the fixed telephony market: Teletrans, Telecommunicatii CFR and POSTelecom.

There is also potential for decreasing the prices as at the moment of liberalisation RomTelecom had in PPP terms, tariffs for local, interurban and international calls significantly above the EU average, and in the boundaries of EU member countries for subscriptions.

On overall, the liberalisation of the telecomm market is expected to have a positive impact especially on the tariffs of international calls, as well as indirectly on the tariffs and penetration rates for the mobile telephony users. However, as the EC Regular Report for Romania shows, the attempt of implementing EU legislation in telecommunication, legislation that was conceived for more competitive markets, directly to a market still dominated by a monopolist incumbent might raise some risks. It is worth noticing that the newly created authority dealt in a successful manner the recent attempts of the incumbent operator resistance to increase its opening in terms of interconnectivity and to further rise prices. Although the threats of RomTelecom might have delayed the entering on the market of some of the operators it finally results in nothing else than a short-term disturbance.

- **Utilities**

The degree of opening of the domestic market for electric energy is limited: only 33% of consumers are now considered eligible, in the sense that they can buy the energy directly from the local or foreign producers. However, this degree of liberalization, 33%, fits a gradual liberalization scheme, that started few years ago from only 5% of consumers. Plans have been made to reach a 60% liberalization level in 2006. When this happens, competition increases, which may lead both to reduced domestic prices and to increased imports. When the limit degree of liberalization is addressed, one must also consider that the opening up of the energy markets in Europe itself is not an easy process, and the scheduled date for full market opening for consumers in Europe is 2007. Plus, some acceding economies have a higher degree of market distortion than Romania; e.g., in Estonia, the main producer controls 90% of the market.

The energy sector is the largest loss maker in the Romanian economy. Although progress has been achieved, the degree of opening of the domestic market for electric energy is limited.

Romania has inherited an energy intensive economy, with subsidized prices. The liberalization process has begun; as this process will advance, price increases may likely be reflected in higher inflation rates in the short run. A related problem is the lack of the regulatory body. Even the foreseen privatisation process, regarded as a market regulator, runs the risk of not being able to avoid the situation in which a large buyer acquires the right to control tariffs, therefore damaging competition. Hence, liberalization may keep users captive, unless competition policy is more strictly implemented.

The energy sector is the largest loss maker in the Romanian economy: it has recorded a negative productivity dynamics combined with high wage increases. The energy sector is yet to be restructured. Moreover, most arrears in the Romanian economy (which sum up about 40% of GDP) are linked to the energy sector. Hence, this sector,

in its current state, creates inflationary pressures and slows down the economic growth.

During its accession negotiations with the EU, Romania has committed to fully liberalize the electric energy and gas prices by 2007. This means that the domestic price will at least equal the production costs plus the development costs; the latter include costs with environment protection.

Currently, the energy price for consumers is still below recovery costs: it covers only 80% of the production costs plus development costs for electric energy. The situation is even more complicated in the gas industry, where the price for consumers only covers 1/3 of total costs. Therefore, the domestic electric energy price is generally lower than the imported one. E.g., electric energy prices in Romania, for households, are half of those in EU, and 20% lower than those in other regional economies.

Romania is not a large importer of energy as such, but a large importer (35% of its consumption needs) of energy resources, which are inputs for this industry. As energy price liberalization goes on, imports are likely to rise though. As of 2002, Romania produced 49.787 bn. Kwh, had a consumption of 45.677 bn. Kwh, exported 1.400 bn. Kwh and imported 0.775 bn. Kwh. An important technical barrier to imports persists as the Romanian electric energy system has not yet been fully interconnected to the European network (Union for Electric Energy Transport Coordination). Romania managed to complete recently two 400kV lines, with Hungary and the Slovak Republic. The interconnection with Bulgaria is still a problem, which also prevents Romanian exports to Turkey. Post-war repairs in the former Yugoslav republic have delayed the interconnection with Serbia. Shall this problem be solved Romania will be connected to the European network. This would facilitate both exports and imports of electric energy.

As far as the domestic market is concerned, there is a significant potential for improved consumption efficiency, by reducing subsidies and price controls. Subsidies will, in the end, be granted only to households with low incomes, as the unavoidable price increases lead to more severe welfare losses for those with below average income (Oprescu et al, 2002).

B II. Transport

- **Increase rail services competition**

The rail services competition is in a rather incipient stage. Nevertheless, the current share of rail transport in total domestic transport shows a significant market potential.

The rail services competition in Romania is yet at the beginning, as there is no private rail transport for passengers and only limited private rail transport for goods. However, the market itself is large, and it has not yet been explored by foreign operators largely due to technical barriers. Such a barrier is the old infrastructure, unable to support high-speed trains.

There is, nevertheless, a significant market development potential, which is shown by the current share of rail transport in total domestic transport in Romania: 40% for the

transport of goods and 55% for the transport of passengers (at year-end 2002), compared to a 7-8% average in the EU. Of course, one explanation for this large share of rail transport is the underdevelopment of the road infrastructure; as of year-end 2003, Romania had merely 100 km of highways. When the road infrastructure improves, as two other highways project are advancing, the share of rail transport may decrease, but it will still remain a significant mean of transportation.

Romania has a strategy for developing the quality of rail services in the medium and long run. Main steps envisaged in this regard are:

- modernizing the infrastructure corresponding to the two European transport corridors crossing Romania (IV and IX);
- inter-connecting with European routes for high speed trains; first project refers to the route Constanta-Bucharest-Brasov-Cluj-Oradea (-Budapest-Vienna);
- improving regional transport for passengers;
- modernizing rail stations.

The total financial effort estimated over the next 20 years, in order to fulfil these objectives, is in excess of 14 bn. Euro. The first three objectives mentioned above, in particular, support higher competition by improving infrastructure and access for foreign and local operators.

- **Create a single European sky by 2004**

At year-end 2003, Romania provisionally closed chapter 9 of EU negotiations on the transport policy.

As civil air transport is concerned, Romania fulfils EU requirements and standards regarding both regulations and infrastructure. A strategy has been elaborated to develop the Bucharest International Airport towards higher capacity, interconnection with other transport services and higher security.

With respect to air traffic management, Romania has been a member of EUROCONTROL (the European organization for air traffic safety) since 1996. As such, Romania has been active in designing and implementing pan-European projects (such as ATM 2000+).

Regarding the European Commission's Single European Sky Initiative, aimed at creating new functional air space blocks, Romania acts as a member of EUROCONTROL. A committee coordinates the Single European Sky initiative; Romania is not member of this committee (members include only EU-15 plus the 10 new acceding countries), but it is represented there through the EUROCONTROL organization.

In line with the goal of the Single European Sky initiative, Romania signed on the 8th of July 2003, together with Bulgaria, Moldova and Turkey, "The Memorandum on Establishing the South East European Cooperation in the Area of Air Traffic Management" (ACE). This memorandum constitutes a functional mechanism for common efforts in this region towards improving safety levels, traffic capacity and air traffic management efficiency.

B III. Financial services

The Romanian financial system is based on the banking sector (which holds more than 95% of total assets in the system). The banking sector witnessed a series of major failures during the last decade, which diminished its credibility. All bank crises in

The banking system has been improved in the last years, but its strength has to be tested over a longer period of time. However, when compared to other transition economies, the Romanian financial sector is still underperforming

Romania stemmed from fraudulent activities of shareholders and/or managers against the background of weak supervision activity. Fraud risk, spurred by the sub-optimal performance of the judiciary, continues to be one of the direst threats to the supervisory authority. The banking system has been cleaned up in recent years, but its strength has to be tested over a longer period of time, and the capital account opening will be a major challenge to its stability.

Following the series of bank failures in the second half of the 90's, current prudential regulations are based on best practices. The regulations in this field, though incomplete, come into line with the EU norms. The NBR has implemented the final regulations issued by the Basle Committee in the course of 2002.

Romania – prudential regulations in the banking system

Type of regulation	Prudential regulations	Comparison with EU standards
Minimum capital	ROL 250 billion (approximately EUR 8.8 million)	EUR 5 million
Capital adequacy ratio (for credit risk)	12% (risk-weighted assets)	8% (risk-weighted assets)
Liquidity indicator	Effective liquidity/Required liquidity > 1	No European standards in place
Limits on credit exposure Credit concentration per client or connected lending	20%	25%
Loans to persons in special relationship with the bank	20% (aggregated amount)	20%
Limits on FX risk	20% (total FX position) 10% (individual FX position)	Any amount exceeding 2% is multiplied by 8 to reach capital requirement
Loan classification and provisioning	0% for standard loans 5% for loans under observation 20% for substandard loans 50% for doubtful loans 100% for bad loans	No EU standards in place
Reserve funds	Banks must allocate 20% of gross profit for the reserve fund until the latter is equal to share capital, afterwards up to 10% until the fund is twice as large the share capital. From that moment, allocations are made from net profit.	No EU standards in place
Deposit insurance	Every bank accepting household deposits must participate in the insurance fund. Minimum coverage: ROL 100.4 million (EUR 3,670)	Every credit institution must participate in insurance fund/s. Minimum coverage: EUR 20,000
Rules on shareholders	Any person intending to acquire an equity stake of at least 5% or wishing to increase its stake above levels representing multiples of 5% must win NBR approval.	Any person wishing to acquire, directly or indirectly, an equity stake of at least 10% or to increase its stake above thresholds of 20%,

		33% or 50% must inform the supervisory authority that may oppose the acquisition.
Limits on banks' equity interest	20% of share capital of any commercial company not engaging in financial activities specified under The Banking Act; 10% of bank's own funds; 50% of bank's own funds (aggregate limit).	15% of bank's own funds; 60% of bank's own funds (aggregate limit).
Audited Annual Reports	External audit	External audit

Results were fast to appear: the ratio of non-performing loans to total assets in the banking sector has been cut from 14.5% at the end of 1998 to 0.2% at the end of 2003; and the solvability ratio surged from 10.2% in 1998 to 19.9% in 2003 (well above the 12% benchmark).

Selected financial market indicators

	1998	1999	2000	2001	2002	2003
<i>Capital market</i>						
Stock market* capitalization, % GDP	3.36	4.32	3.95	6.19	10.09	10.63
<i>Banking sector</i>						
Capital adequacy (>12%)	10.25	17.90	23.79	28.80	25.04	19.98
Non-performing loans, % of total assets	14.54	2.36	0.29	0.32	0.23	0.23
National Bank of Romania's refinancing rate, % annual	38.0	35.0	35.0	35.0	20.4	18.8

* it refers both to the Bucharest Stock Exchange and the over-the-counter market (RASDAQ).

The foreign capital is dominant in the banking sector: foreign capital ownership in total banking capital rose to 58.7% in 2002 versus 35.8% at year-end 1998. The decreasing share of state owned banks seriously restricted the scope of resource misallocation through banking channels. Moreover, in 2003, the largest bank in the system, Romanian Commercial Bank, got two major institutional shareholders (IFC and EBRD), which enhanced foreign ownership in the banking sector. Banking concentration in Romania is fairly high - the five biggest banks hold more than two thirds of total assets and of loans and three quarters of the T-Bills portfolio, a common feature in many transition economies, including the front-runner cases.

However, when compared to other transition economies, the Romanian financial sector is still underperforming, primarily in terms of financial intermediation and insufficient development of non-banking financial markets. This underdevelopment

proved to be an asset in the late 90's, when it insulated the Romanian banking system from the shock waves of the Asian and Russian crises.

The main flaw of the banking system is the poor banking intermediation, which constitutes a constraint to exchange rate and monetary policy conduct amid large capital inflows. The current share of broad money in GDP (the level of monetisation) is 25%, and it has hovered around this figure for most of the transition years. Low monetisation of the economy renders even small capital inflows to have a significant impact on broad money. An upsurge in capital inflows, following the capital account liberalization and spurred by the interest differential, may easily surpass the speed of remonetisation, resulting in increasingly higher sterilization costs (around 1% of GDP in 2001 and 2002).

Non-governmental domestic credit has also been historically low, at less than 10% of GDP for most of the transition years. The spread between active and passive interest has stayed rather constant, despite both rates going down impressively in the last years; the active rate decreased from 63.7% at year-end 1997 to 25.4% at year-end 2003, and the passive rate decreased from 51.6% at year-end 1997 to 10.8% at year-end 2003. When the domestic credit nevertheless surged in 2003 (up to 15% of GDP), the NBR was fast to intervene to stop a balance of payments damaging consumption spree.

The array of available financial instruments is small and, accordingly, they are less effective: interbank deposits (including deposits taken by the central bank) hold the largest share of the interbank market; the small share of outright operations, which are more efficient in the case of sterilized operations (the daily average volume of reverse repo operations ranged from 8 percent to 16 percent of total deposit-taking operations in 2002); the market of government securities has experienced obvious weaknesses.

The new regulation on government securities appears set to revive the market and assign it a key role within the financial system. However, supply on the whole is weak, with few maturities and coupon payments at fixed date. Other weaknesses are: the absence of clues on market value, due to the role played by and the marginal expansion of the secondary market, and the lack of an annual schedule of issues.

There are (only) few types of operations in the forex market: mostly spot transactions, occasionally forward transactions, short-term transactions (less than three months, having as a benchmark the NBR's maturities) and seldom swap forex transactions.

Dealing in derivatives has not started yet. Finally, the market is split due mostly to foreign banks' excessive cautiousness, which makes (often) surpluses coexist with deficits (at the end of the business day) on various segments of the market.

The capital market is very small both in terms of share in total domestic financial assets (less than 5% of total assets of the Romanian financial markets as of end-2002), and in terms of regional development – slightly above 10% of GDP in 2003. The capital market was subject to new regulations in 2002, aimed at increasing liquidity and decreasing captive shareholders. The main effect obtained, however, was only an avalanche of de-listings.

The equity market went through a severe crisis in 2000 on the segment of undertakings for investment in transferable securities – the consequences of such a crisis have yet to be cleared. The huge scams occurred because of poor regulation and supervision; weaknesses are still in place due to the legal system's stalemate in identifying the culprits and enforcing the law.

Despite these weaknesses in various aspects linked to the operation of the financial sector, the NBR pressed ahead with the liberalization of the capital account, which is not devoid of risks unless structural reforms go on. As of the beginning of 2004, few capital account operations were still subject to controls, to be eliminated no later than the time of Romania's accession to the EU. These operations were: sale, issue, purchase of securities and other instruments dealt on the money market, by residents and non-residents; operations in deposits abroad by residents; purchase of land by non-residents.

C. Enterprise

C I. Business start-up environment

- **Develop a programme to support enterprise and entrepreneurship**

While the social attitude in Romania towards entrepreneurship is not always positive, among the young generation more and more individuals are planning to set up their own firm. Due to the fast polarization of wealth in the transition years, and to the emergence of a new class of “nouveau riche” who have succeeded in their businesses in a rather heterodox way (e.g. by taking over undervalued state property through less transparent procedures), the public opinion is still reserved in accepting entrepreneurship as a virtue. However, most of the Romanian population acknowledges the benefits of entrepreneurial action, if not for the economic development of the society, at least for the opportunities for individual prosperity and wealth. The media in Romania is playing an important role in shaping the attitude towards entrepreneurship. One of the most effective ways to encourage start-ups was the presentation of success stories in terms of setting-up and developing businesses.

While the social attitude towards entrepreneurs is often negative and governmental efforts in encouraging entrepreneurship are weak, important progress was achieved in terms of facilitating market entry.

At the Governmental level, the policy towards encouraging entrepreneurship is not absent, but is rather weak. The Ministry of Education and Research (MER) has tried to include entrepreneurship in the educational curriculum in the last years, but the effort was not systematic. Even though formally MER has introduced entrepreneurship in the pre-college education curricula since 1999, the actual implementation of entrepreneurial training is unsatisfactory. Moreover, most of the actions of MER have been induced by international financing and/or by NGO initiatives, even though the Government formally sees entrepreneurial education as a priority.

The efforts of the Government in promoting entrepreneurship have also been supported through the National Agency for Small and Medium Sized Enterprises (NASMEC), which plays an active role in developing the enterprise sector in Romania. NASMEC has initiated a series of national multi-annual programmes for the period 2002-2005 for supporting enterprises in start-up, investment, export activity etc. Moreover, recently NASMEC has drafted a strategy for the next years, where entrepreneurship and entrepreneurial support is prioritised.

The civil society is also a key player in stimulating entrepreneurship through institutions such as the Chambers of Commerce, youth NGOs etc. Last but not least, the international financing from the EU, from EU member states, from US, Canada or Japan has supported private or public initiatives meant to encourage entrepreneurial behaviour. European Union funding, through programmes such as Phare - Economic and Social Cohesion, or mobility programmes such as Leonardo da Vinci Programme, has channelled resources with an impact on enhancing training and entrepreneurial awareness.

As regards market entry, Romania has taken important steps for streamlining and simplifying start-up procedures. The progress made in reducing the administrative burden for start-ups is generally acknowledged (ECb, 2003). The creation of the Sole Office at the National Trade Registry as a “one-stop-shop” structure has improved the process of setting up new businesses. For a while, the effects were not obvious, given the institutional changes, which have been decided simultaneously. The Government has taken the controversial decision of moving the Trade Registry from the Chamber of Commerce system to the Ministry of Justice, which implied an additional period of institutional readjustments and tuning of the new registration procedure. Moreover, the National Trade Registry Office is planning to amend once again the registration procedure in 2004, in order to further simplify market entry. On-line registration is also envisaged for the near future.

Given all occurred changes, it is not very easy to estimate the actual improvement of the start-up procedure. Surveys are not very helpful if they are not applied to very fresh start-ups, while there still are regional differences in the actual implementation of the registration regulations.

According to the World Bank (2003)⁴, the registration process for a limited liability company in Romania involves a minimum of 6 procedures, takes 27 days and costs around USD 220, which places Romania above the average of the acceding and candidate countries (AC/CC). Given the fact that in 2002 the World Bank estimated that in Romania the market entry process involved 9 procedures, took 46 days and costed approx. USD 600⁵, it is clear that considerable progress has been achieved.

As regards the minimum required starting capital, a limited liability company must deposit a minimum of 3.3% of gross national income (GNI)⁶ per capita in a bank to obtain a business registration number, compared with the regional average of 123.9% of GNI and the OECD average of 61.2% of GNI.

Administrative burden for start ups and venture capital availability

Country	Number of procedures to start a company	Duration to start a company (days)	Cost to start a company (% of GNI per capita)
Austria	9	29	6,6
Belgium	7	56	11,3
Denmark	4	4	0,0
Finland	4	33	3,1
France	10	53	3,0
Germany	9	45	5,9
Greece	16	45	69,6
Ireland	3	12	10,4
Italy	9	23	24,1
Netherlands	7	11	13,7
Portugal	11	95	12,5
Spain	11	115	18,7
Sweden	3	16	0,8
United Kingdom	6	18	1,0
EU-14 mean	6	40	12,9

⁴ Doing Business in 2004: Understanding Regulation, World Bank, October 2003;

⁵ World Bank data quoted in Enterprise Policy Performance. A Regional Assessment, OECD Investment Compact, 2003, p.25;

⁶ The equivalent of 2 million ROL in GNI per capita, World Bank methodology, 2003;

Bulgaria	10	30	6,3
Czech Republic	10	88	11,7
Hungary	5	65	64,3
Latvia	7	11	14,7
Lithuania	9	26	6,3
Poland	12	31	20,3
Romania	6	27	11,9
Slovak Republic	10	98	10,2
Slovenia	10	61	15,5
Turkey	13	38	37,1
AC/CC –10 mean	10	48	19,9
Israel	5	34	5,0
Norway	4	24	3,9
AS – 2 mean	5	20	4,5
Mean of the 26 countries	8	42	14,8

Source: Doing Business in 2004, The World Bank.

- **Develop and implement a European charter for small businesses**

Romania has assumed in 2002 at Maribor, Slovenia the objectives of the European charter for small businesses, and has taken the commitment to implement them as soon as possible. Internally, the Government has set a course of actions towards the implementation of the Charter, through GD 656/2002. Moreover, NASMEC has been designated to coordinate, monitor and report the implementation status of the Charter.

NASMEC completed the first reporting exercise in 2003 (ECc, 2003), which provided detailed information about the measures taken by Romania in order to fulfil the objectives of the European Charter. Formally, the report shows that Romania has taken several relevant steps in order to meet the goals of the European strategy in the field. However, in some cases, there is a difference between the formal institutions created and their actual functioning and implementation. For instance, there are employers associations representing SME interest at national level, but despite a large number of formal branches, such institutions have a very weak power base at the local/regional levels.

C II. Regulatory burden

- **Simplify the regulatory environment to reduce the burden on business**

The regulatory framework needs to be further simplified as still hinders business development and encourages informal practices. Businesses complain about legislative instability and inequality in the enforcement of the law.

In Romania barriers persist related to the procedures for obtaining operational licences, building permits and respecting environmental and industrial standards. Moreover, most entrepreneurs complain about the inequality in the enforcement of the law (OECD, 2003). The firms complying with the rules often face unfair competition from companies operating informally and avoiding taxes and other

regulations. Therefore, firms have strong incentives to operate intermittently between the formal and the informal sectors.

One positive evolution regarding the simplification of the regulatory framework is the introduction in 2003 of the silent approval procedure, which obliges the administration to better respond to entrepreneurs. The new procedure says that if the administration does not respond in maximum 30 days after a particular demand for a licence, permit etc has been handed in by the entrepreneur, then the entrepreneur can assume a positive answer to the licence request and act consequently.

- **Transposing and implementing EU legislation**

Romania has formally transposed a large part of the *acquis communautaire*, being a frontrunner in adopting harmonized legislation. Unfortunately, as regards implementation, Romania can still be considered among the laggards. The lack of administrative capacity, combined with a strong inertia of the public servants, has undermined the implementation of several EU regulations.

C III. State aid and competition policy

- **Promote competition and reduce subsidies to industry**

The Emergency Ordinance 121/2003 (on competition) and the Law 603/2003 (on state aid) established the new institutional framework of competition policy in Romania at the end of last year, with only one autonomous institution – the Competition Council (CC). This solution answers the request of the EC to eliminate the overlaps previously existing between the Competition Council and the Competition Office (CO), which has been disbanded (Oprescu, 2004).

A new Board of the CC has been nominated and a Memorandum between CC and the Ministry of Public Finances has been signed in order to enhance the activity in the field of promoting competition and monitoring state aid. The Competition Council is now the only authority involved in state aid control, by taking over the activity of monitoring, inventory and reporting of state aids, which was previously done by CO.

The institutional framework has been recently improved through the adoption of new regulations regarding competition and state aid. However, determined actions are required in implementing existing regulations, especially in the field of state aid.

From the legislative point of view, the European Commission has still observations, mainly to the State Aid Law. EC had previously requested to make possible for the CC to act against state aids given by means of laws and government ordinance. This request has not yet been met, for various reasons. Related to this, another request of EC was not met, respectively the provision that competition legislation should take precedence over any other type of legislation. There are also other more technical provisions that are considered inappropriate by EC.

In addition to the required institutional reform, Romania needs to act more vigorously in implementing existing regulations. If anti-trust performance can be considered

satisfactory⁷, as regards the actual implementation of state aid provisions, the compliance record is very poor. Moreover, Romania needs to clarify certain special state aid regimes, such as industrial parks, free zones, “D” zones⁸, which have been criticized by the European Commission.

- **Overhaul public procurement rules and make them accessible to SMEs**

In Romania SMEs have priority in public procurement, along with other facilities offered through specific legislation such as Law 133/1999 and Emergency Ordinance EO 297/2000. In 2002, SMEs’ participation in total public procurement was 55,7%.

⁷ 2003 Regular Report on Romania’s progress towards accession, European Commission, p.60;

⁸ Disfavoured zones or areas, with a special fiscal regime for encouraging investments;

D. Employment and social inclusion.

The employment and social inclusion dimension of the Lisbon summit aims to define a comprehensive framework for ensuring that Europe will have a skilled, well educated and competitive labour force, which will be better able to adapt to change. A major goal is to create the premises for the European economy to deal with the problems that might appear with the ageing of Europe's population, with the impact this will have on budgets and, in particular, on the pension systems. The core message of the assessment is that an ageing population will translate into higher dependency ratios, as long as employment is not stimulated. Consequently, an important part of the employment and social inclusion chapter is devoted to finding ways to attract people into the workforce. The specific goals are to achieve a rate of participation of 70% for the population aged 15 to 64 years old, of 60% for women, and of 50% for older workers by year 2010. At the same time, the Lisbon agenda links the establishment of a skilled, well educated, flexible labour force to lifelong training and encourages people to enrol in higher education programs, and firms to train their employees. In parallel, an important objective of the agenda is to modernize the European social protection systems, some of which risk to become unsustainable in long run and put additional pressures on public finances. The pension systems in particular have to be reformed in order to avoid deficits that drain significant resources away from other priorities such as investments in the human capital.

D I. Bringing people into the workforce

Romania's population trend has been negative since 1990, with no signs of reversing in the near future. If the trend does not reverse, Romania's population will grow older, and more resources will be dedicated to the social assistance. Due to the pursuance of early retirement as an alternative to labour shedding, especially in the early years of transition, the ratio of the beneficiaries to the contributors to the pensions system is well over one. There is no surprise therefore that the pension system runs a large and endemic deficit fluctuating around 0.5 - 1% of GDP per year. This has the potential to further increase due to the ageing of the population if no measures to attract people back into employment are taken.

- **Rate of participation for the population aged 15-64**

Although currently unemployment is low, the employment trend is negative and several investigations suggest structural imbalances of the labour market. Competitive losses are likely without a large degree of reallocation across sectors. Agriculture is one of the most troublesome sector from this perspective.

Romania's employment rate of the population aged between 15 and 64 years old was 62.4% in 2001. With the exception of Slovenia, Romania has the highest employment figure among the Central and Eastern European countries. However, since 1990, employment has decreased steadily. This negative employment trend is an indication that the process of structural reforms, and especially enterprise restructuring and the establishment of a

competitive economic environment conducive to job creation, has not yet been concluded. Employment in Romania may further contract before starting to grow again. Other countries in the region, such as Hungary, have seen employment growth

for some years by now, confirming their advance in enterprise restructuring and labour market reforms.

The World Bank Country Economic Memorandum (CEM) analyses sectoral employment distribution in Romania at the beginning of the transition, in 1989, and 2001, and compares it to the sectoral employment of the acceding countries and current EU members. An index of structural imbalances of labour markets has been defined as a means of quantifying the labour reallocation requirements. The index was defined as the overall excess employment in sectors where employment in the country exceeds mean employment in the corresponding sector from the EU.

According to this measure, Romania needed the largest reallocation of labour both in 1989 and 2001. In 1989, around 30% of the labour force would have been required to change occupations and sectors in order for Romania to reach a sectoral employment comparable to that of the EU. The index, instead of decreasing, which would have indicated an adjustment towards the EU levels, had deteriorated further and, in 2001, more than 40% of the work force would have needed to change occupations. With the exception of Bulgaria, the rest of the CEE countries under investigation have made significant progress in convergence towards EU employment structures. This finding provides evidence in support of the fact the Romania's aggregate employment figures present a picture rosier than the reality may be. It suggests that the present employment structure in Romania will not be able to withstand the competitive pressures that a single market will bring, without a large degree of reallocation across sectors.

In Romania agriculture has played throughout the transition the role of the "employer of the last resort". In countries with high agricultural employment, when the process of job destruction in the industrial sector has not been accompanied by job creation elsewhere, laid off workers have turned to small scale farming as an alternative to open unemployment. This is the case of Romania, where employment in agriculture has risen from 28% in 1989 to 42% of the total in 2001. This move has been in the opposite direction from the trends observed throughout the EU and candidate countries. In the EU employment in agriculture represents between 3-10% of total employment and still exhibits a downward trend. There are also other sectors in Romania, beside agriculture, where labour retrenchment will continue. The mining sector, railways or the utilities feature among the candidates.

- **Rate of participation for women and older workers**

An important objective set by the Lisbon summit was to increase the participation of women and older workers, aged between 55 to 64 years. Romania's women employment rate is apparently high compared to the EU average, at around 57% in 2001, but it is sensibly smaller than that of the males, of 67%. In 2001, older workers, aged between 55 and 64, had an employment rate of 48.2%. This does not depart significantly from the EU target of 50% participation rate by 2010. However, one has to be cautious in interpreting the employment rates of women and older workers. First, the two rates have been decreasing since the beginning of transition. Romania, unlike most of the EU countries, had a tradition of high women participation rates. It is hard to believe that the drop in activity of women was voluntary, given the concomitant severe deterioration in living standards and the increase in long-term

unemployment. We expect therefore a large percentage of inactive women to return to work when labour market conditions start to improve. To increase older workers employment, the practice of pursuing early retirement policies, as an alternative to unemployment, should be revised and the mandatory retirement age should be gradually increased. At the same time, the participation of women and older workers in the subsistence agricultural sector is even larger than in the case of the men. This suggests that the employment figures in the two cases hide bigger imbalances than at a first glance.

D II. Labour market dynamics

The dynamics of unemployment affects the overall labour market participation. Although in Romania open unemployment has emerged inevitably as a consequence of enterprise restructuring and output contraction, in recent years it appears to have stabilized at around 7-8% of the labour force. This is less than the EU average figure. These relatively low registered and Local Force Survey (LFS)⁹ unemployment levels can be partially attributed to the limited restructuring that took place in the enterprise sector. At the same time, the decline in employment has not been matched by a proportional rise in unemployment, as long unemployment spells discourage people from actively looking for jobs, and pushes them out of the labour force or into subsistence agriculture, as we have seen earlier. The large informal economic sector, estimated at between 20-30% of GDP, may also explain the low formal employment figures and the low unemployment paradox. The grey economy appears to provide a large number of low paid jobs to (mostly unskilled) individuals who cannot find formal employment.

Low unemployment can be explained also by the existence of a large underground economy, which should be surfaced in the next years. Moreover, a large percentage of the unemployed are long-term, which is detrimental to the economy. Job creation should be prioritized, especially given the favourable climate provided by recent economic growth.

According to the World Bank CEM¹⁰, the transition probabilities of moving from one state of the labour market to another, in one-year time, are relatively high. An unemployed person had in 1999 a 32.3% probability of finding a job, a 52.5% probability of staying unemployed, and a 15.5% probability of moving out of the labour force. This indicates that a large percentage of the unemployed are long-term. Unemployment cannot be avoided, especially in an economy that requires

substantial labour reallocation across sectors, as is the case of Romania. However, long-term unemployment is detrimental to an economy and its workers, from a number of reasons: it contributes to an erosion of skills; employers associate long term unemployment to unproductive workers, and therefore are reluctant to hire them; long term unemployment spells have an effect of discouragement of the unemployed, and push them out of the labour force or into the informal sector. Long-term unemployment affects asymmetrically different age categories. It is very high among new graduates and low level educated youth, indicating a mismatch between skills that the education system provides and labour market demand.

⁹ According to the Romanian National Institute of Statistics (NIS) methodology;

¹⁰ Country Economic Memorandum, see before;

Romania has lost around 2.4 million of jobs between 1989 and 2001. On the other hand, around 2.1 million of new jobs have been created. As discussed earlier, the majority of new jobs, 1.4 million, were created in the agricultural sector, as the “employer of the last resort”. There is ample concern and evidence that these jobs are not sustainable in the medium term in the context of the Common Agriculture Policy (CAP) and the consequent competitive pressures the Romanian agricultural sector will face. If the reform process is to be successful, measures stimulating durable job creation and higher participation have to be taken. The present economic climate is beneficial, as Romania’s economy has been growing robustly for four consecutive years, making the task of encouraging job creation easier and financially more affordable.

If measures for stimulating job creation and higher employment are to be successful, several aspects have to be taken into considerations. First, they should allow for pushing down labour costs. This can be achieved through decreasing the non-wage components of labour costs, especially for low skilled jobs. Second, hiring and firing costs should be reduced. Employers should be allowed greater flexibility in deciding the number of employees, and the involvement of the trade unions in corporate governance matters should be limited. Third, the quality and skills of the labour force should be upgraded, by encouraging people to enrol in higher education programs and lifelong learning. The unemployed should be stimulated to undertake training in order to update or even change their skills. Forth, the establishment of a transparent, stable and predictable business environment that encourages the formation of new entrepreneurs, the reduction of the administrative and regulatory obstacles to businesses as well as the set-up costs in registering new firms should have a major positive impact on sustainable job creation. Assistance and consultancy for the small business should be widely available. Fifth, the use of early retirement policies should be made more restrictive, both by gradually increasing the retirement age and by limited the categories of workers and individual cases that qualify.

In recent years, Romania has taken steps to reduce the non-wage labour costs. In 2003 the social contribution levels have been reduced by 5%, from around 34% to 29% of the gross average wage. It is a well-deserved relief and further cuts are envisaged, but the non-wage costs of employers and employees added together still amount to 49% of the gross wage. This is a very significant non-wage cost that hampers the process of new job creation, especially in the case of low paid workers.

In March 2003 a new labour code governing the functioning of the labour markets came into force. The code is widely criticised for introducing significant rigidities in the labour market, which adversely affect job creation and labour costs. Several provisions of the code feature prominently among those heavily criticised. First, the use of term contracts is very restrictive. Term contracts can be used only in exceptional circumstances, and cannot be renewed. Second, the probation period for workers to demonstrate their skills is reduced to a maximum 30 days, which may not be enough for an employer to assess specific skills. Third, the employer’s rights to labour retrenchment for economic reasons are severely restricted. Valid reasons for dismissals are economic hardship, but firms may need to shed labour in order to improve their competitiveness as well. Preventing firms from adjusting their workforce hampers efficiency and external competitiveness of the economy. Small

firms are forced to comply with industry level agreements that are negotiated above their heads. The negotiated salaries and benefits may be too high for firms to afford, pushing them out of business. Overall, although the labour code has introduced some positive changes which simplify recording procedures and limit the opportunities for abuse and corruption, it has not been promoting a flexible environment in which the labour market to operate.

D III. Upgrading skills

Romania does not excel in encouraging the development of a well-educated labour force. According to a recent survey, it has the highest percentage of early school leavers in the region, with 23% of the population between 18 and 24 leaving all forms of education, and the lowest percentage of life-long training. Only 1% of the population aged between 25 and 64 were participating in training over the four weeks prior to the survey. Expenditure on education is one of the lowest among CEEs countries (as section A of this report describes). Long-term unemployment among recent graduates indicates a mismatch between the skills the education system provides and the labour market demand. Education institutions should conduct studies to identify match and mismatch situations and reorient profiles, study streams, and curricula. The education system is undergoing a comprehensive reform, which has already produced significant changes, especially in compulsory educations. Reform measures were piloted in the vocational education and training system.

Long-term unemployment among recent graduates indicates a mismatch between the skills the education system provides and the labour market demand. An important challenge remains the assistance of displaced workers in order to acquire new qualifications demanded by the structural shifts of the labour market.

Romania faces an important challenge in assisting displaced workers to acquire new qualifications in order to cope with the structural shifts in labour demand. To respond to the changing environment several active labour market programs have been designed and implemented. They take the form of public works, employment and business start-up subsidies, training, job counselling and brokerage. Romania spends

around 0.7% of GDP on labour market programs, with around 15% of it dedicated to active labour market policies (a significant increase from 2.5% in 2000). This is however less than half of the amount other candidate countries spend. The percentage is too small, especially since studies have found that training and retraining, small business consultancies and assistance, and employment and relocation programs increase the chances of the participants to find employment and reduce the likelihood of receiving unemployment benefits.

D IV. Modernizing social protection: the PAYG pension system

The balance of the pension system is another prominent topic of the Lisbon agenda. All pay-as-you-go (PAYG) schemes are at risk when population growth slows or stops, since a smaller number of employees has to pay for an increasing number of pensioners. This was also the fate of the Romanian PAYG pension scheme. By 1995 the system entered into a chronic deficit, forcing the government to increase the social security contributions from 14% in 1990 to 35% in 2002. Even under these

conditions, the system continues to run a deficit of around 0.8% of GDP, covered from transfers from the state budget.

Apart from the inevitable output and consequent pension fund revenue contraction, there were several factors that augmented the problems of the pension system. First, early retirement programs have been excessively encouraged by the government and used by enterprises in order to reduce the number of employees without shedding surplus labour. Second, the rules used, at one time, for computing the pension were very generous, to the extent that often workers would receive a pension larger than their salary at retirement. Third, the number of workers entitled to retire before the mandatory retirement age on grounds of difficult working conditions has increased substantially. Fourth, the disability pensions were abused by those who did not qualify for early retirement, but wanted to retire. Fifth, the pension fund has had no registry of contributors, and the collection mechanism was inefficient. Sixth, pension systems using pay-as-you-go schemes are in general prone to run into difficulty sooner or later, depending on the demographic characteristics of the population. This was the case of Romania, where birth rates decreased due to the hardship of transition.

The pension system is in a chronic deficit, even though the social security contributions are very high. While the new pension legislation corrects many of the initial flaws, the deficit of the PAYG scheme is unlikely to be contained even in the medium term. However, the initiative of creating alternative pension schemes may improve the savings-investment balance.

All the above contributed to a significant increase in the number of retirees which, coupled with the decrease in employment, has sent the pension system into deficit. Since the demographics are unlikely to help, it is clear that the pension system needs to be reformed. The current pension system has come into force in 2000. Immediately after the publication of the law, a large number of norms and government emergency ordinances have been issued, many leading to lax legal provisions and the reintroduction

of a number of facilities for some privileged categories. The new pension legislation will increase the standard retirement age from 55 to 60 years for women and from 60 to 65 years for men in a step-by-step approach until 2014. This is sensibly less than the EU objective of 65 years old by 2010.

The new law has eliminated the generous system of pension computations, by introducing a new algorithm based on the actual pay. The original law penalized early retirement, through reduced pension, but this was reversed. Besides the facilities regarding the lowering of the standard retirement age for jobs considered difficult, other facilities of the same type have been introduced. The law provides for the possibility of retirement when an individual is at least 50 years old for women, and 55 years old for men. The possibility of early retirement one or two years before the standard age, as well as early retirement in the case of women with more than three children was introduced as well. In the case of early retirement the penalties are withdrawn, once the individual has reached the standard requirement age.

While the new pension legislation corrects many of the initial flaws, at the same time it introduces others, and the deficit of the PAYG scheme is unlikely to be contained even in the medium term. Legislative initiatives for alternative pension schemes, such as for occupational pensions or private personal accounts, are in the making. These

should alleviate though not remove the current imbalances of the state pension system. However, they constitute an important step forward in improving the savings-investment balance of the country.

E. Sustainable development

E I. Climate change

- **Reduce greenhouse gas emissions by 8 per cent from their 1990 levels by 2010, in line with the Kyoto protocol**

Romania has been the first European country signing the Kyoto protocol, thus showing its commitment to support sustainable development. Regarding the objective of reducing greenhouse gas emissions, Romania is one of the front-runners among the acceding and candidate countries, with more than 30% lowering of gas emissions. This performance is not due to the efficiency of the environmental policy, but rather to the restructuring of industrial capacities and given the overall economic decline in the period 1990-1999. Ironically, according to current benchmarks, Romania could even afford the luxury to increase its greenhouse gas emissions, along with revitalising industrial production and economic growth.

- **22 per cent of electricity to derive from renewable sources by 2010**

Given the industrial decline between 1990-1999, Romania fulfils the objectives set by the Kyoto protocol. As regards the use of energy, the energy efficiency of production equipment and networks is very poor, mainly due to a lack of investment, while the energy intensity of the economy is very high.

Romania does not assign the necessary resources to improving energy efficiency and to promoting renewal energy. The present efficiency of production equipment and networks is very poor, mainly due to a lack of investment. The Romanian Agency for Energy Conservation (ARCE) is in charge of promoting energy efficiency but has very limited financial and human resources. Although charges levied for its

activities have been significantly increased, the impact of ARCE remains limited. This is particularly worrying, since the energy intensity of the economy is very high (estimated at around 6 times the EC average, and exceeded by only Estonia, Lithuania and Bulgaria – see ECd, 2004).

Although ARCE has initiated a large number of programmes and regulations aimed at increasing energy efficiency, the results are unsatisfactory. However, one positive evolution is worth mentioning – the creation in 2002 of the Romanian Fund for Energy Efficiency (FREE), a self-financing, independent institution, which benefited from the non-reimbursable financial assistance of IBRD - Global Environmental Fund - amounting USD 10 million; FREE became operational in July 2003.

The Romanian Government drafted the National Strategy in the energy efficiency field, in response to the European Union's recommendations included in the Regular Report for 2002. However, the strategy fails to identify either clear, short-term priorities or the necessary funding resources.

As regards the use of renewable energy, Romania benefits from the existing hydro-electricity production, which combined with other modest renewable sources (e.g. wind) provide 28.8% of all energy consumption. This percentage places Romania on the third place among the acceding countries, after Latvia and Slovenia. However,

beyond the natural endowment, which offers hydro potential, Romania's efforts to increase the use of renewable energy sources, have been limited. Only recently the Romanian Government issued a directive regarding the promotion of renewable energy sources, which will enter into force in April 2004. The implementation of this regulation will be extremely important in order to meet the objectives of the Lisbon agenda.

- **Break the link between economic growth and transport volumes by prioritising public and environmentally friendly forms of transport**

The European Environmental Agency blames emissions from transportation as one of the factors affecting the environment and hindering sustainable development. Therefore, the Lisbon agenda included in its objectives the "decoupling" between economic growth and the volume of transport, by supporting the focus on environmentally friendly forms of transport.

Romania, as many other former socialist countries, has inherited a transport system focused mainly on railways, which was designed to serve heavy industries. This legacy implies that the percentage of environmentally friendly forms of transport is high, placing Romania among the front-runners within the acceding and candidate countries.

However, road transport is gaining ground very fast, reaching almost 50% in total inland freight transport in 2001, whereas the volume of freight transport relative to GDP is around 80%.

The rapid growth in road transport will be further accelerated by the envisaged development of road infrastructure. Therefore, in order to ensure compliance with the Lisbon objectives related to sustainable development, Romania needs to monitor closely and take actions towards maintaining a high percentage of environmentally friendly forms of transport.

E II. Natural environment

- **Reduce exposure to particulates and ozone emissions**

Romanian agriculture after 1989 has undergone a process of massive mechanical downgrading. Lack of financing and investment has hindered the development of agriculture. As a result, agricultural production is nowadays based more on extensive rather than intensive methods of production.

From this viewpoint, Romania's agriculture has a high potential in terms of focusing on organic farming. Several steps have already been taken in this direction. The registration system for organic farming operators (producers, processors, importers) was introduced in 2002. Since then, the inspection and certification EU bodies have been provisionally authorized to perform inspection and certification of organic agri-food products within the Romanian territory.

The *National Federation for Organic Farming* (FNAE), including five producer associations (Agroecologia, Romanian Association for Sustainable Agriculture, Biotera, Society for Organic Agriculture, Ecorural), was set up to promote and develop the organic farming in Romania. It will provide and promote the organic farming production rules, the organic farming principles (for plants and vegetal products, animals and bee-keeping), list of products allowed to be used in the organic farming, ingredients and processing methods that can be used for the preparation of organic products etc.

Romania's agriculture has a high potential in terms of focusing on organic farming. However, the assessment of the available resources, and the means to achieve the proposed objectives are still to be defined.

However, one should not assume that Romania has prioritised organic farming as the most important option for agricultural development. The strategy in the field lacks a clear assessment of the available resources, and therefore the means to achieve the proposed objectives.

As regards fishery policy, Romania has transposed EU legislation establishing the species, places and period of fisheries prohibition. However, some of the fish stocks are still threatened with extinction, due to the gap between the formal regulations and the implementation of such protecting measures. Fishing activity in the Danube Delta still remains to be better regulated and monitored.

- **Improve management of natural resources and stop the depletion of biological diversity**

Romania needs to invest around 30 billion euro in order to implement EU environment standards. The levels of pollution are quite high, especially concerning water quality. Water treatment alone requires 15 billion euro in the next 15-20 years. Most of the EU legislation has been transposed, regarding waste management, air quality, water quality and nature protection. The Government has developed a strategic view providing the priorities and the measures to be implemented in next years, but the financial constraints may hinder the proposed reform.

In order to provide resources for the implementation of environmental standards, the National Environmental Fund has been established, yet the attracted financial resources remain insufficient.

Water treatment and waste management are the two areas of sustainable development in which Romania is severely underperforming. Acknowledging this, Romania has requested, in the process of EU negotiations, a transition period of 15 years for water treatment and of 10 years for waste management for fully implementing the EU standards in these fields.

III. INDICATORS OF THE LISBON SCORECARD

	Unit	Romania	Score	EU max	EU min	CCs min except Romania
Innovation and research						
D						
Spending on human resources	% GDP	3,28	D	7.32 sweden	3.51 greece	3.66 bulgaria
Total R&D expenditures	% GDP	0.38 (0.56)	D-	4.27 sweden	0.64 spain	0.27 cyprus
Business R&D	% GERD	44.6 (65)	C	71.88 sweden	31.54 portugal	15.28 cyprus
Government R&D	% GERD	48.4 (29)	C	60.95 portugal	20.99 sweden	37.08 slovenia
R&D financed from abroad	% GERD	7 (6)	C	18.68 austria	2.47 germany	1.89 slovakia
Level of internet access	% households	4,5	D-	65.5 netherlands	12.2 greece	5 bulgaria
Patents EPO	no per million inh.	0,7	E	366.5 sweden	5.4 portugal	2.08 bulgaria
Patents USPTO	no per million inh.	0,49	E	213.6 sweden	1.9 portugal	0.6 bulgaria
IT expenditures	% GDP	1,1	D	4.4 sweden	1.2 greece	1.9 lithuania
IC expenditures	% GDP	5,3	B	4.4 portugal	2.6 greece	4.7 slovenia
Liberalization						
D+						
price of telecom: local calls	euro, 10 min.call	0,27	C-	0.56 uk	0.23 finland	0.09 bulgaria
electricity prices: industrial users	euro per kwh	0,04	D+	0.082 italy	0.052 spain	0.045 estonia
gas prices: industrial users	euro per GJ	2,29	D	6.80 sweden	5.26 denmark	2.91 estonia
Enterprise						
D						
time to start a business	days	27	C+	123 italy	18 uk	11 latvia
cost to start a business	% income per capita	11,7	C	69.6 greece	1 uk	8.3 bulgaria
state aid	% GDP	6,3	E	1.58 finland	0.66 uk	n.a
Employment and social cohesion						
C-						
total employment rate	% of total population	57,6	C	75.9 denmark	55.5 italy	50.6 bulgaria
life long learning	% of adult population receiving education and training	1,3	E	34.2 sweden	3.6 portugal	1.4 bulgaria
inequality of income distribution	ratio of income received by top quantile to lowest quantile of population	4,6	C	6.5 portugal	3.1 denmark	3.4 czech
early school leavers	% of 18-24 aged population	23,2	C	41.1 portugal	9.0 sweden	4.3 slovenia
total long term unemployment	% of total active population	3,8	C	5.1 greece	0.8 austria	0.8 cyprus
Sustainable development						
C-						
greenhouse gas emissions	% of the base year (1990), target: 8% cut by 2010	92	B	125.0 greece	72.0 luxembourg	92.0 bulgaria, czech
energy intensity of the economy	kg of oil equivalent per 1000 euro	1164	E	263 finland	125 denmark	341 slovenia
share of renewable energy	% gross national electricity consumption	28,4	B+	67.3 austria	1.6 belgium	0.8 hungary

Methodological notes:

1. This assessment is based on a classical scale from A (best) to E (worst). Each scale has three more sensitive degrees (e.g.: C-,C,C+). The score for Romania on this scale are assigned having as benchmarks not the Lisbon targets, but the current performances of the EU members in attaining the Lisbon targets.
2. The columns “EU max”, “EU min” and “CCs min” indicate the maximum, respectively the minimum values of the indicators presented among the EU-15 members, and among the candidate countries.
3. The table presents two alternative calculations for Romania’s R&D expenditures – total, and financed by government, by private businesses, or from abroad. The first figures are the official ones, but they account for a very limited range of companies having a specialised R&D department with minimum 8 employees (166 firms) and research institutes. We made another calculation, adding to these figures the labour expenses from the IT industry, a developing industry in Romania, which is innovation-driven and human capital intensive, largely not included in the official R&D statistics. The results of this second calculation are presented within brackets, at their respective lines in the table above.
4. Some important Lisbon areas of interest cannot be defined by specific indicators. Transport is such an example, because the objective of increasing competition is not similar to the share of various transport means in total transport (the later being an available indicator). Financial services are also difficult to assess; one of the indicators used in Europe refers to the convergence of active interest rates for the corporate sector, and another one to the price convergence. Such indicators are not appropriate for transition economies, still not integrated in the Common Market. Also, regulatory burden is a matter of qualitative interpretation and lacks an indicator per se.

IV. CONCLUSIONS

This scoreboard should only be regarded as an indicative tool. It places Romania in the context of the Lisbon process, but not directly compared to the Lisbon targets; instead, the benchmarks for Romania are the current performances of the EU members in attaining the Lisbon goals. The reason for this is that the EU itself is not yet fully prepared to reach the Lisbon goals; hence, positioning Romania directly against the Lisbon target would have lacked significance.

Even when compared to the way in which the EU countries are moving towards the Lisbon targets, we face one problem in the assessment for Romania: the Lisbon targets, and the indicators to measure them, are more appropriate and meaningful for developed economies. This is why we have chosen not to give a final score for Romania, but only for each area of interest. Another reason was the difficulty to aggregate these five separate scores in one composite measure: is one area more important than the other? Maybe not for developed economies, maybe so for transition economies, but how to measure this?

Romania: Towards knowledge based economy?

Area of interest	Score
Innovation and research	D
Liberalization	D+
Enterprise	D
Employment and social cohesion	C-
Sustainable development	C-

Nevertheless, the assessments for each of the five areas analysed need to be qualified.

- **Innovation and research**
 - Knowledge diffusion (technology absorption) is more advanced than knowledge creation. “Information society” should receive a higher mark than “research and development”.
 - When innovation and research are discussed, one should not forget the dual characteristic of the Romanian economy: almost half of the population lives in the rural area and has little to do, if anything, with innovation and research. Therefore, the data presented in section II A of this report, while comprising all Romania, actually reflect mostly urban realities alone.
- **Liberalization**
 - Liberalization has made significant progress in telecommunications, transport and financial services, but it has lagged behind in the energy sector. Unfortunately, there are no proper comparable indicators (that could be measured) in transport and financial services, but the developments presented in section II B of this report should be illustrative. For telecommunications and utilities, prices could be compared, as price convergence should occur in the long run.

- **Enterprise**

Business start up conditions have improved, but market entry and market exit barriers persist in the form of distortive state aids and incomplete implementation of the competition legislation.

- **Employment and social cohesion**

Unemployment is quite low, but there are large pockets of hidden unemployment (in loss-making state companies) and employment in the underground economy; and the reform of the pension system is yet to be implemented. Moreover, the large number of Romanians working abroad (both legally and illegally) clearly obfuscates the unemployment phenomenon.

- **Sustainable development**

Industrial restructuring helps Romania complying with the provisions of the Kyoto agreement, but large investments are still needed to respect the EU standards in the long run. While the sources of renewable energy place us ahead of most European economies, water treatment and waste management are the two main sectors in which Romania underperforms.

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