Romania and the Lisbon Agenda
- EU accession and economic competitiveness -

November 2004

Group of Applied Economics – GEA
Romanian Center for Economic Policies - CEROPE
This report has been prepared by a joint team of the Group of Applied Economics (GEA) and the Romanian Center for Economic Policies (CEROPE), at the initiative and with the support of the Romanian Ministry of Foreign Affairs. This is a revised and broadened version of the GEA-SOREC Spring 2004 Report “Romania: An Assessment of the Lisbon Scorecard”.

Authors: Daniel Daianu (coordinator), Amalia Fugaru, Valentin Lazea, Bianca Pauna, Dragos Pislaru, Gheorghe Oprescu, Liviu Voinea

Acknowledgements:
The authors would like to thank Mr. Marius Hirte and the Inter-ministerial Group focused on the Lisbon Agenda for the support and feedback in documenting sections of this report.

Group of Applied Economics (GEA)
34 Clucerului St., Sector 1
Bucharest 011366, Romania
Tel: +40 31 402 2675, +40 31 402 2676
Fax: +40 21 222 5109
Email: office@gea.org.ro
Website: www.gea.org.ro

Romanian Center for Economic Policies (CEROPE)
6 Natiunile Unite Blvd., Entrance 2, Suites 32-33
Sector 5, Bucharest, Romania
Tel: +40 21 335 8970, +40 21 335 8971
Fax: +40 21 336 1594
E-mail: office@cerope.ro
Website: www.cerope.ro
Contents

Executive summary ........................................................................................................4
1. Introduction - Romania and the Lisbon process ......................................................6
  2. Sustainable growth and sound macroeconomic policies – 2005-2010 ............9
      2.1.1 The real economy ..................................................................................9
      2.1.2 Quality of public finances - Fiscal and budgetary policy outlook ..........10
      2.1.3 Monetary policy outlook .....................................................................11
      2.1.4 External equilibrium ............................................................................13
2. Competitiveness and innovation ...........................................................................15
      3.1 Preparing for the internal market ...............................................................15
      3.1.1 Enhancing competition and reducing subsidies to industry ..............15
      3.1.2 Completing the liberalization process ....................................................19
      3.2 Better regulation and more favourable business environment ............25
      3.3 RDI and the path to competitiveness .........................................................28
3. Employment and social inclusion .......................................................................37
      4.1 Addressing structural and long-term unemployment ............................37
      4.2 Providing more and better jobs .................................................................39
      4.3 Enhancing social cohesion through reforming the pension system ..........41
      4.4 Free movement of workers and the impact of migration .....................43
4. Environmental sustainability ..............................................................................45
      5.1 Climate change ..........................................................................................45
      5.2 Nature and biodiversity ..........................................................................47
      5.3 Resource management, environment and health ....................................48
6. CONCLUSIONS ....................................................................................................50
ANNEX: Monitoring Romania’s Progress – The Structural Indicators of the Lisbon Strategy ........56
Executive summary

The Lisbon agenda may seem a luxury for Romania as we speak. The structural foundations of the economy are not yet very strong, the external equilibrium is mainly secured by foreign remittances, the financial intermediation is insufficiently developed, agricultural activities are far from being efficient as a whole, competition policy has not yet dealt effectively with state aids, and the liberalization of utility prices is far from being completed. Under these circumstances, the effort to move towards a knowledge based economy when we haven’t yet consolidated the market economy itself is a daring endeavour. Nevertheless, this effort needs to be undertaken: first, because the Lisbon agenda ranks very high on the list of priorities of the club which we will join in two years time, the EU; and second, because a knowledge based economy is Romania’s chance to add more value to its products and services in the medium and long run. While it is not compulsory, the Lisbon agenda is complementary to the needed evolution of the Romanian economy, and it encompasses most areas of public policy.

But the Lisbon agenda is very complex, and its priorities can be differently interpreted by each country: while EU is more concerned with social cohesion, job creation and support for R&D, Romania has still to deal with job destruction (through restructuring), disinflation, and improving business environment. Technology assimilation is more important for Romania, in the short run, than technology creation – simply because, irrespective of how much one wishes, development stages cannot be overleaped so fast. Confirming the current status of the Romanian economy, knowledge diffusion indicators (including the extent of the information society) are progressing faster, while many knowledge creation indicators are still underperforming.

This report acknowledges the progress made in specific areas of the Lisbon agenda, and it also provides a number of policy recommendations in order to improve Romania’s capacity to adapt to the Lisbon agenda. The progress should primarily be judged domestically, since we are not even close to the current EU 25 performances in most regards of the Lisbon agenda, and since the priorities within the Lisbon agenda can be interpreted differently on a country by country basis.

Tentative policy recommendations are included in the sections of this report, as it follows.

Fiscal and budgetary policy: a consistent reform of public expenditure is needed to improve their prioritization and to redirect them towards areas that strengthen the country’s human capital, infrastructure and administrative capacity. Multi-annual budget programming is a must.

Monetary policy: in view of the expected appreciation of the domestic currency, and the lack of the asymmetric shocks adapters such as the labour mobility, the participation in the ERM-2 mechanism (preliminary stage of euro adoption) should not be targeted earlier than 2010.

Competition and liberalization policy: 1. State aid should be redirected toward horizontal objectives, in particular towards R&D aid; 2. The competition authorities should be given more power and enhanced independence. A vigorous
R&D policy: 1. An independent advisory body should be created to fill in the current gap between the strategic and executive levels in the Romanian innovation system. Such an advisory boy exists in all EU core countries, where it has contributed to the development and implementation of a coherent RDI strategy; 2. Venture capital for innovative firms needs to be encouraged, and the government could provide a co-financing for a venture capital fund aimed at supporting innovative firms; 3. Business R&D expenditures need to be supported by indirect financial measures, which are allowed by EU regulations. Fiscal incentives could be linked to the share of R&D expenditures in turnover or the share of R&D employees in total employees, or the number of patents registered each year.

Employment and social policy: 1. The non-wage components for labour costs should be reduced, especially for low skilled jobs; 2. Hiring and firing costs should be reduced; 3. Encourage lifelong learning; 4. Re-examination of the Labour Code

Environmental policy: Strengthen the institutional capacity needed to raise funds and to administer the implementation of environmental projects.

The Lisbon agenda may seem a luxury for the Romanian economy, indeed, for the latter still shows structural risks and vulnerabilities. But it should not be treated as such. The eventual fulfilment of the Lisbon agenda would, among other factors, strengthen the foundations of the economy and diminish risks, because it would place Romania on a different stage of economic development – from a factor intensive economy to an innovation intensive economy. Meanwhile, Romania has to consolidate its market economy, and to create a friendly business environment, which should foster research, development and innovation.
1. Introduction - Romania and the Lisbon process

The Lisbon Agenda is much talked about lately. Wim Kok team’s Report\(^1\) criticizes heavily policies in many of the EU member countries – policies which are inappropriate in order to deal with the goals of the Agenda. But these goals remain, fundamentally, valid; they reflect an increased awareness at EU level that traditional policies have started to fail providing results in the new economic context given by the globalisation challenges and the impact of new information and communication technologies. Moreover the Agenda is a reaction to the relative worsening of the EU competitiveness in comparison with the US, Japan, at a time of rapid economic ascendancy of China and other Asian economies. Last but not least, the Lisbon goals are in fact the expression of the centripetal attitudes and forces within the EU, which are worried about the possible dilution and stalemate of the “deepening” side of the European integration process.

As Wim Kok’s Report suggests, the central goal set a Lisbon in 2000, to transform the EU into the most competitive, knowledge-based economy in ten years time has already proved to be overambitious. Other reports of the European Commission or prepared by independent experts have shown that the overall performance of member states is relatively disappointing. This is why a revised Lisbon Agenda is to be adopted.

It should be said however that there is a great diversity in terms of policy effectiveness among the EU countries. While some member states may be considered overachievers (e.g. the Nordic countries), several others are considerably lagging behind. Part of the answer for such developments may be found in the mix between market-oriented reforms and public policy, but there is no miraculous formula that can be applied in order to reach the perfect policy balance. Nonetheless, there is general agreement that the Lisbon principles of investing in research and human capital, of promoting innovation, of consolidating the internal market etc. are important guidelines for increasing the European economic prosperity.

At the current level of development of Romanian economy the urge for structural reforms tends to shadow the more subtle, whilst equally important, issue of developing knowledge-based oriented sectors of the economy. While EU is currently most concerned with social cohesion, job creation and priority to research and innovation, this seems less applicable to Romania in the short-run, where restructuring (incl. job destruction), wage limitation, control of inflation and improving the business environment are top priorities. Romania, as a candidate country, is guided primarily by the Copenhagen criteria aiming at “establishing a functioning market economy and having the capacity to withstand competitive pressure and market forces within the Union”. While integration into the single market without a market economy is not possible, lack of emphasis to preparing the capacity to withstand EU competitive pressures would hinder Romania’s position in the longer run.

---

\(^1\) Former Dutch Prime Minister Wim Kok was mandated by the March 2004 European Council to lead a high level expert group in order to provide an independent review of the progress achieved in the implementation of the Lisbon strategy. The Report, entitled “Facing the challenge – the Lisbon Strategy for Growth and Employment”, issued on November 1, 2004, will serve as an important input for the preparation of the Mid-Term Review, which will take place during the 2005 Spring European Council;
Moreover, for accession countries, which embark on catching up trajectories, technology assimilation (diffusion) is much more important for productivity gains and, further, for high economic growth rates. Recent decades’ spectacular evolution of Asian economies, and of Ireland in Europe, confirm the above statement. The same could be said, though in a more qualified manner, about Spain and Portugal. Romania may benefit a lot by setting high goals, but only if such effort would be reinforced by clever public policy, which would confine market flexibility with effective regulations, development of basic infrastructure and adequate investment in human capital.

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 date for EU accession (2007) is not threatened by the Lisbon targets, be those revised. Yet, Romania’s coherent development within an enlarged EU may be at risk, in the medium and long run.

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

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

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 (2000-2004). Disinflation has made substantial progress, but inflation is still high; 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 large part of the working population. The budget deficit is within Stability Pact’s limits, but the quasi-fiscal deficit is higher.

**Table 1: Key macroeconomic indicators**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP real growth</td>
<td>1.5</td>
<td>3.9</td>
<td>7.1</td>
<td>3.9</td>
<td>-6.6</td>
<td>-5.4</td>
<td>-3.2</td>
<td>1.6</td>
<td>5.3</td>
<td>4.9</td>
<td>4.9</td>
<td>7.5</td>
</tr>
<tr>
<td>Inflation Dec/Dec</td>
<td>295</td>
<td>61.7</td>
<td>27.8</td>
<td>57</td>
<td>151</td>
<td>40.6</td>
<td>51.4</td>
<td>40.7</td>
<td>30.3</td>
<td>17.8</td>
<td>14.1</td>
<td>9.6</td>
</tr>
<tr>
<td>Unemployment</td>
<td>10.4</td>
<td>10.9</td>
<td>9.5</td>
<td>6.6</td>
<td>8.8</td>
<td>10.3</td>
<td>11.5</td>
<td>10.5</td>
<td>8.6</td>
<td>8.1</td>
<td>7.6</td>
<td>7</td>
</tr>
<tr>
<td>Gross fixed capital formation, % GDP</td>
<td>17.9</td>
<td>20.3</td>
<td>21.4</td>
<td>23.0</td>
<td>21.2</td>
<td>18.2</td>
<td>17.7</td>
<td>18.9</td>
<td>20.5</td>
<td>21.1</td>
<td>23.5</td>
<td>24</td>
</tr>
<tr>
<td>Current account deficit/GDP</td>
<td>4.5</td>
<td>1.4</td>
<td>5</td>
<td>7.2</td>
<td>6.7</td>
<td>7.5</td>
<td>3.8</td>
<td>3.7</td>
<td>5.5</td>
<td>3.4</td>
<td>5.6</td>
<td>6</td>
</tr>
<tr>
<td>Budget deficit/GDP</td>
<td>2.6</td>
<td>4.2</td>
<td>4.1</td>
<td>5</td>
<td>3.6</td>
<td>2.8</td>
<td>2.5</td>
<td>3.6</td>
<td>3.1</td>
<td>2.5</td>
<td>2.4</td>
<td>1.6</td>
</tr>
<tr>
<td>Total medium and long term foreign debt/GDP</td>
<td>12.7</td>
<td>15.1</td>
<td>15.4</td>
<td>20</td>
<td>22.4</td>
<td>24.4</td>
<td>24.6</td>
<td>25.5</td>
<td>30.2</td>
<td>30.2</td>
<td>30.2</td>
<td>31</td>
</tr>
</tbody>
</table>

Source: adapted from NBR statistics
* forecast
How can the Lisbon process contribute to macroeconomic stability in Romania? First, it could help to reduce the structural trade deficit (and the current account deficit) over the longer run. 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 address the unemployment challenge. 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 report quotes various studies describing the 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; but this technology transfer is nevertheless used 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 all (2002), by using the unit value of products as proxy for quality, found that only 18% of Romania’s exports were embedding high technology (which is the lowest ratio in the region). A piece of good news is that this that ratio has nevertheless almost doubled as against a decade ago.

This is the second independent report assessing Romania’s economic performance by using Lisbon Agenda benchmarks. The first one, prepared in March 2004, provided a scorecard based on the brief evaluation of the main objectives set at Lisbon. The present study has a different approach, trying to focus more in-depth on Romania’s competitiveness challenge; it suggests possible policy venues to increase the convergence with EU standards. The timing of producing this second report is not random, as similar efforts have been carried by several other member states in order to provide inputs for the 2005 Mid-term Review of the Lisbon Agenda.

The following parts of the report will focus on issues related to sustainable growth, competitiveness and innovation, employment and social inclusion, and environment sustainability.
2. Sustainable growth and sound macroeconomic policies – 2005-2010

The Romanian economy is set to grow, on average, by an estimated 5% of GDP over the next five years mainly driven by FDI and consumption. FDI (including transfer of know-how and management) will increase steadily as Romania is improving its credit ratings and preserves a relatively cheap labour, while expanding incomes will fuel the domestic demand and thus playing in important role in reducing the gap in living standards with the EU.

2.1.1 The real economy

Assessment

The prospect of EU enlargement contributes to economic growth in Romania in a decisive manner; it also speeds up the pace of structural reform as the transition period draws to an end and the convergence with the EU is the new policy target. One of the main consequences is that competition will significantly increase pressure on the domestic companies especially in sectors where foreign trade plays a major role.

Transformation of the economy will result in the shrinking of some sectors as share in total GDP and the rapid expansion of sectors that currently are underrepresented in the GDP. Thus, intuitively, the new business created by the FDI influx will create the demand for developing infrastructure which on its turn will trigger the increase in other industries like metallurgy, construction materials, machines and equipments, real estate, banking.

Likewise, the acceleration in consumption will generate demand for real estate, buildings, consumption goods, financial services which will contribute to the increase of the services sector in general but also of industries related to the construction.

Recent studies\(^2\) support this idea and more precisely pinpoint two sectors that will contract in absolute terms as value added in the GDP. These two sectors are agriculture and textile (including clothing). Although, for the time being the two sectors have a dynamic growth pace of value added, in the last two years a decreasing rhythm is evident.

Second, there are sectors that tend to increase (on average) at a pace less than the GDP growth rate. Some of these sectors, like mining or food and beverages, might consolidate on the decline trend, but others, like electricity, construction materials will definitely witness accelerated growth in the years to come.

Third, a number of sectors are growing at a pace close to that of GDP which may indicate that there is no clear correlation between their development and the GDP (as for instance is the case of public administration).

Finally, there is a group of sectors which already grow at an accelerated rate as compared to the GDP like financial intermediation, real estate, machinery and parts; their activity is expected to maintain an accelerated evolution in the period to come.

---

\(^2\) Hans Holzhacker “CEE: Structural Change Following EU Accession”, in “CEE – from Transition to Convergence, edited by Bank Austria Creditanstalt
The structural change mentioned above will cast a certain pattern of the Romanian industry in the next five years whereby it is expected to see more specialisation (for instance in the machinery and parts industry). This will draw Romania closer to the blueprint of the Czech Republic among the CEECs, but it also means that competition will become fiercer on this sector with other specialised economies like Germany or Sweden. As these changes in the structure of industry will trigger important mutations on the labour market, the Romanian government should be ready to anticipate them and prepare accordingly to alleviate potential shocks.

2.1.2 Quality of public finances - Fiscal and budgetary policy outlook

Assessment

The fiscal and budget policy had a consistent role in the disinflation process in the last several years. The budget deficit was diminished from 4 percent of GDP in 2000 to 2.0 percent of GDP in 2003 in order to reduce the excess aggregate demand and to contain the pressure on the current account deficit. This trend continued also in 2004 when the budget deficit was diminished additionally to 1.64 percent of GDP.

On the revenues side of the budget, Romania committed to increase the share of GDP in the first Pre-accession Economic Program forwarded to the European Union. The main measures envisaged to attain this objective were the reform of tax administration and improvement of tax collection, the cut of the social security tax rates and enlargement of the tax base. Starting with 2004, a semiautonomous tax administration was set up, with its own budget, human resources and accounting functions. The collection, enforcement and audit of the social security taxes that were collected previously in separate organisations were also integrated in this new organisation. Furthermore, a Fiscal Code was issued which eliminates many of the tax incentives, which created distortions in the business environment and diminished the tax base. The social security taxes were reduced to 49.5 percent from over 60 percent in 2000. This process will continue also in the following years in order to reduce the propensity to tax evasion and enhance competitiveness in attracting FDI.

The budget revenues are expected to increase from 31.5 percent of GDP in 2004 to 35.8 percent of GDP in 2008. The expenditures will increase from 33.1 percent of GDP in 2004 to 38.3 percent of GDP in 2008. This would allow an increase in the public expenditures in key areas such as health, education, infrastructure and research and development.

A caveat is necessary, however, here. Future budget pressures are likely to arise from the need to reform the social security system, the co-financing needs for the EU funds, the implementation of the acquis, the substantial costs entitled by PPPs3.

Table 2: Public revenues and expenditure medium term projections (% of GDP)

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total revenues</td>
<td>30.3</td>
<td>31.5</td>
<td>31.2</td>
<td>31.6</td>
<td>34.9</td>
<td>35.6</td>
</tr>
<tr>
<td>Total expenditures</td>
<td>32.3</td>
<td>33.1</td>
<td>32.7</td>
<td>33.5</td>
<td>37.4</td>
<td>38.3</td>
</tr>
<tr>
<td>Budget deficit</td>
<td>2.0</td>
<td>1.6</td>
<td>1.5</td>
<td>1.9</td>
<td>2.5</td>
<td>2.7</td>
</tr>
<tr>
<td>Debt service interest</td>
<td>2.1</td>
<td>1.5</td>
<td>1.5</td>
<td>1.7</td>
<td>1.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Primary</td>
<td>0.1</td>
<td>-0.1</td>
<td>0.0</td>
<td>-0.2</td>
<td>-0.8</td>
<td>-1.2</td>
</tr>
</tbody>
</table>

3 Public Private Partnerships, especially for large infrastructure projects;
Policy recommendations
There is urgent need for multi-annual budget programming (MABP), which should assess thoroughly future pressures on the budget. This is increasingly asked for since inflation targeting (as new as a new monetary regime to be introduced by the Central Bank in 2005) could stretch the budget policy in case of adverse shocks.

In view of possible pressures on the budget in the years to come, income and structural reform policies will have to play a more important role in fiscal consolidation and support of disinflation. A consistent reform of the public expenditures will be needed in order to improve their prioritization and redirect them towards areas that strengthen the country’s human capital, infrastructure and administrative capacity. This will make room for sustaining the additional EU related accession costs while avoiding the implementation of a risky pro-cyclical fiscal and budgetary policy.

The reform of the health and pension systems is crucial to counter the expenditure pressures of an aging population and to improve the sustainability of the public finances.

2.1.3 Monetary policy outlook

Assessment
A stable and predictable macroeconomic environment is a crucial pre-condition for Romania’s successful integration into the EU and, at a later stage, into the EMU. In this context, monetary policy will undergo, in the next few years, some very important changes. Their final goal is bringing inflation to low single-digits, fulfilling the Maastricht criteria of nominal convergence and paving the way for the fulfilment of real convergence, such as to make the Romanian economy a competitive one.

One can divide the measures to be taken into three categories, according to the time frame: short term (2005), medium term (2006-2010), and long term (2011 and beyond).

Starting with the short term measures, 2005 will be a critical year. The most important measure is the planned shift from a policy of monetary aggregates control to a policy of direct inflation targeting (IT) by the National Bank of Romania. A crucial precondition to make this policy possible was the amendment of the Central Bank’s statute, by Law 312/2004 which provides for:

- stating price stability as the sole fundamental objective of the NBR;
- consolidating its institutional, personal and financial independence;
- prohibiting any possibility of financing of public institutions by the Central Bank;
- eliminating the privileged access of public institutions to financial institutions resources.

Other preconditions refer to an adequate understanding of the monetary transmission mechanism in the Romanian economy (which should enable the NBR to have good
forecasts for its policy moves), and proper fiscal consolidation. As a matter of fact, these preconditions, as well as, other features of the Romanian economy (degree of euroization, local monetization, intensity of structural change) would determine the content of the IT regime.

Another ambitious policy goal is the continuation of the liberalization of the capital account transactions, the vast majority of which has already been completed. Non-residents will be allowed to open accounts with local banks during 2005. The Central Bank is preparing for this measure, by sending signals that would discourage speculative inflows by:
- diminishing the reference interest rate;
- allowing for a wider flexibility of the exchange rate;
- subjecting forex deposits to a much higher (30%) reserve requirement than domestic deposits (18%).

The third important measure worth mentioning is the beginning of the functioning of the Electronic System of Payments, which was designed and implemented under a PHARE project in 2002-2004. It will consist of three elements:
- a large sums payment system (RTGS);
- a small sums payment system (ACH);
- a treasury bills payment system (GSRS).

By having all the three systems, Romania will leapfrog other transition countries, which have implemented only one or two of them.

Finally, a long overdue measure is the redenomination of the national currency, the Leu, which will take place on July 1, 2005. By this measure, new banknotes and coins will replace the old ones, at a ratio of 1:10000. The potential inflation burst that could result from rounding –up will be countered by obliging all the traders to advertise both the old and the new prices a few months in advance of the changeover.

Turning to the medium term (2006-2010), this is the period when, in parallel to the EU accession, inflation should be tamed and brought to low single digits. The crucial issue then will become when and how Romania will join the EMU, i.e. adopt the euro as its currency. The current thinking⁴ is that Romania could enter the ERM-2 system in 2009-2011, with a view of staying in this mechanism the shortest mandatory period of two years and joining the Eurozone in 2011-2013. We believe that one should target the longer end of the intervals, because Romania’s successful integration into the EMU depends critically not only on the fulfilment of the Maastricht criteria (of which inflation is a crucially important one), but also on diminishing the gap in real convergence criteria.

The years to come would likely witness a significant real appreciation of the currency, in line with the Balassa-Samuelson effect and subject to a robust productivity growth. This real appreciation of the currency, coupled with high GDP growth, would help reduce the difference in GDP per capita between Romania and the EU⁵. “Locking” too early the exchange rate in the ERM2 mechanism (if the narrow bands of ± 2.25%}

⁴ As expressed by the Governor of the NBR, Mugur Isărescu, in his speech “Romania: the Path to Euro adoption”, Romanian Economic Society (SOREC) Evenings, March 2004. The Government has not yet expressed any preference on this issue;

⁵ In nominal terms, Romania’s GDP per capita was 8% of EU 15’s. In PPP terms, it is approx. 30% of the EU average;
apply) would mean losing an opportunity to further diminish the gap in GDP per capita.

The second real convergence criterion worth considering is the structure of the economy, with agriculture currently providing some 12-14% of Romanian GDP, and with services providing only 43-45%. In order to get to “European” levels, these ratios should change to 4-5% and to 60-65%, respectively. Otherwise, adopting euro in a rush, with an asymmetrical structure of the economy, risks exposing Romania to asymmetric shocks and, according to the Optimal Currency Area theory, the costs risk outweighing the benefits.

The third important argument against a precipitated adoption of the euro has to do with the availability of other shock absorbers, such as the mobility of labour force, once a country gives up its independent monetary policy. Taking 2007 as the accession year and the restrictions on labour circulation to EU countries for the first seven years (as is currently the case), this means that one important buffer for dealing with asymmetric shocks will not be available to Romania (or will be only partially available) until 2014. Yet again, this calls for a postponement of euro adoption.

Policy recommendations
Given the considerations outlined above, the period 2006-2010 could be one of consolidating the strategy of inflation targeting, meaning also a refining of the econometric models on which this strategy rests. Only towards the end of this interval should the NBR change again its strategy to ERM-2, which is akin to a form of exchange rate targeting. Also, by 2007 all capital account transactions should be liberalized, calling also far a greater flexibility of the exchange rate during this period.

Finally, turning to the long-term (2011 and beyond), Romania should prepare for adopting the euro. This implies staying in the ERM-2 system for no longer than the mandatory two years, while running an exchange rate targeting. Towards the end of this period (sometime in 2013), Romania could adopt the euro and thus become a fully recognized member of the European Community.

2.1.4 External equilibrium

Assessment
Romania had achieved steady and higher growth rates in the past four years through the exceptional performance of exports. This is altogether more significant as it happened against a background of lowest FDI/capita levels in the region and the sluggish performance of EU, its main trading partner.

The sustained growth pace of exports over the last four years is the combination of several factors. Thus, the EU – oriented exports proved to be a strong factor of development over the whole period of transition. Second, the depreciation of the US dollar relatively to the Euro in 2002 gave a certain advantage to the Romanian exporters on the EU markets. However, the main driving force behind the surge in exports during the last years is a gain in competitiveness.
On the other hand, imports have kept closely the pace with exports especially for the investment goods and consumer goods. Since 2003, this has resulted in a growing trade imbalance.

The current account deficit target was slightly exceeded last year which is likely to happen this year as well. Despite this fact, in 2003 the financing of the deficit was not a problem since the FDI covered around 65% of the deficit and this year has already gone up to 72%.

**Policy recommendations**

If the current growth rate of the export is to be sustained it is necessary that the structure of exports be changed in order to include more value added goods.

The capital account performance during the following years is crucial since Romania has had the lowest FDI/capita in the region but is expecting to be the preferred target of the investors for this area in the years to come.

---

6 The current account deficit target for 2004 is 5.5% of GDP
3. Competitiveness and innovation

In order to ensure coherence of policies affecting competitiveness, the EU has set up a single Competitiveness council by grouping together the areas of Internal Market, Industry and Research, through a decision of the European Council meeting in Seville in June 2002. In March 2004, at Brussels, the European Council reiterated that competitiveness, the promotion of an entrepreneurial culture and innovation are defining conditions for growth.

3.1 Preparing for the internal market

One of the main priorities of the EU, derived from the Lisbon agenda, is the completion of the internal market. A recent report commissioned by the President of the EC has concluded that “the single market and active competition policy remain the cornerstone of efforts at EU level to improve European growth performance”. Ensuring the free movement of products, services, capital and labour, and the smooth functioning of each of the national markets is a precondition for advance towards competitiveness.

So far Romania has rightly focused more on domestic reform, rather than on cross-border issues such as the internal market. For Romania, the first natural stage of closing the gap with the EU member states was to implement the necessary transformations in order to build a functioning market economy. The European Commission has considered in the 2004 Regular Report that this first stage is almost completed. The next step would be to prepare the economy for full integration within the EU internal market. This process cannot be achieved overnight, but there are at least two important policy areas which need special attention: competition policy and market liberalization.

3.1.1 Enhancing competition and reducing subsidies to industry

Assessment

Romania has to align itself to the strategy for economic, social and environmental renewal of the European Union. Successfully transforming Romania’s economy depends on improving Romania’s potential to grow. In this context, the key ingredients to increased competitiveness are productivity growth, strengthening the market through market reforms and giving priority to innovation and entrepreneurship.

The main objective of competition policy is to prevent and remove distortions of competition resulting from the actions of companies or public authorities, thus enabling markets to function efficiently. Competition policy is key to establishing a level playing field for all the undertakings. Such an environment induces firms to enhance their efficiency and thus enables them to better prepare to compete in domestic and international markets. A dynamic business environment that ensures

---

competition sets incentives to innovate and foster productivity growth. A competitive economy also creates benefits for consumers and society as a whole.

Romania has publicly stated its commitment to observe the European rules on state aid control and to reduce industrial subsidies. Figures are however contradictory, function of their source, and thus difficult to assess.

### Table 3: State aid in Romania

<table>
<thead>
<tr>
<th>Year</th>
<th>State aid (Euro bill.)</th>
<th>State aid (% of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>1.5</td>
<td>4.4</td>
</tr>
<tr>
<td>2000</td>
<td>1.6</td>
<td>3.9</td>
</tr>
<tr>
<td>2001</td>
<td>2.9</td>
<td>6.6</td>
</tr>
<tr>
<td>2002</td>
<td>1.6</td>
<td>3.2</td>
</tr>
</tbody>
</table>

*Source: Report on State Aid in Romania 2000-2002, Competition Office, Ministry of Public Finances*


The differences between the two sources are quite substantial, from simple to double. Two conclusions can be drawn from this situation:

- The **EC Scoreboard** was based on data provided by each candidate country. This shows serious problems (at least at that time) in the monitoring system of state aid in Romania or in the co-operation between various Romanian institutions (in the case when the two sets of data have been reported by different authorities);
- The figures reported by the **2000 – 2002 Competition Office Report** are – in terms of share of aid in GDP – almost double the highest ranking next country (Hungary 1.7%).

Within the group of the candidate countries, Romania ranked the first in terms of state aid as a share of GDP. When aid is expressed in per capita terms, however, the picture changed considerably. Even if purchasing power standards (PPS) were used – thereby taking account of differences in price levels between countries – Romania tended to spend less aid than other candidate countries or member states: 88 PPS per person in Romania as against 105 PPS in the 12 (at that time) candidate countries and 185 the EU average. As a result, Romania was ranked 6th in terms of aid per capita (PPS).

Romania started negotiations on chapter 6 „Competition” in 2000. The requirements for the provisional closure of this chapter are derived from the conclusions of the Copenhagen European Council in 1993. In the economic sphere, the criteria that should be met before joining the EU are the existence of a functioning market economy as well as the capacity to cope with competitive pressures and market forces within the European Union. As a result, the requirement of adapting to a competition discipline **well before the accession** stems from the need to preserve the internal market discipline after enlargement and from the difficulties that would arise in Romania if it was faced with the application of the **acquis** from one day to the next. In this respect, the Lisbon strategy of „less and better aid” in order to increase competitiveness is an important instrument that Romania should use.

In translating these principles in concrete requirements, three elements have to be in place in Romania before the competition negotiations can be provisionally closed:
• the necessary legislative framework with respect to antitrust and state aid;
• an adequate administrative capacity (in particular, a well-functioning competition authority); and
• a credible enforcement record of the acquis in all areas of competition policy.

EC considers that progress in antitrust is satisfactory. The Competition Council had few formal cases of cartel or abuse of dominance, successfully solved in the past (e.g. REBU, Registru Român al Acţionarilor, Tuingdor/RAPPS, SNAM, etc.).

Table 4: Antitrust cases

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartels (no. of cases)</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Abuse of dominance (no. of cases)</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: The Competition Council

However, even if in the recent years very few real cases have been registered, the Romanian market still has areas where dominant players, usually multinational companies, are apparently setting the rules, by using their leading position. As a result, similar to the need felt by the European Commission itself, the quality of the economic analysis in the Romanian competition authority should be substantially improved by raising staff’s skills in industrial economics.

Progress in the field of state aid has tended to be slower than in the antitrust field. Substantial improvements were registered only with regard to the first two bullets above, i.e. legal harmonization and capacity building: the legal framework currently contains the State Aid Law and 27 other pieces of secondary legislation (most of them transposed in 2004), institutional overlapping has been eliminated by merging the Competition Council and Competition Office, the Competition Council has now proper headquarters, wages have been substantially increased in order to reduce staff turnover.

Romania’s legislation is very close to European rules on state aid control. Several issues however are not yet compatible:

• **State aid definition is not fully compatible**, as it does not include support measures from private bodies administering state resources. Interestingly, this provision existed in the previous form of the State Aid Law, but has disappeared in the new one.

• **Illegal aids**. The definition is less comprehensive than the European one, because it does not cover non-notified changes made to aids already approved in the past.

• **Recoulement/repayment of illegal aids**. The Law does not empower the Competition Council with direct attributions equivalent to those of the European Commission on recoulement of illegal aids. These differences can be explained by the fact that, in Romania, control on state aid is done at the national level. The Law empowers the Competition Council to ask the relevant Court of Appeals (where the headquarters of the illegal aid grantor or beneficiary are situated) for the annulment of the administrative act and, consequently, for the recoulement, reimbursement or suspension of its payment. It is to be noted that these procedures
refer to “administrative acts by means of which the illegal aid has been granted” and do not apparently cover the normative acts (laws) which are involved in many cases of state aid. Actually, the Competition Council does not have the power to ask for the annulment of such aid in an administrative procedure, because the administrative courts do not have the power to challenge laws, government ordinances, or emergency ordinances. With regard to the control powers of the Council on the laws granting illegal aids, the State Aid Law provides for an unclear procedure, both from the point of view of its legal effects and of the possibilities to appeal in courts.

- The State Aid Law does not have precedence on any other Romanian law by means of which state aid are awarded. This creates legal, procedural and practical difficulties for the recoupment of illegal aids. This may create problems until accession. After the accession, Romania will become a member of the European Union and a party to the treaties on which the European Union is founded, as amended or supplemented. From the date of accession, the provisions of the original treaties and acts adopted by EU institutions prior to Romania’s accession will be binding on Romania and will apply under the conditions laid down in the treaties and in the Act of Accession.

**Credibility of the enforcement** of European rules on state aid has still to be proved by Romania’s competition authority. In an economic environment where state aid is rather the rule and not the exception, only a couple of rejections of notified aids looks too little. Harmonization of existing aids remains still to be done and legal acts providing for state aids are still to be made compatible.

**Policy recommendations**

On a medium-term perspective, Romania has to redirect aid to horizontal objectives of common European interest and to target it to identified market failures. In general terms, state aid that can be approved should serve to generally defined objectives, such as research and development, environment, regional development, or the development of SMEs and only if it avoids undue distortions of competition. This requires a balancing of the objectives and effects of the aid which will be undertaken – after the accession – by the European Commission in close co-operation with the country concerned.

The EU’s new antitrust and merger rules, which entered into force on May 1st, 2004 give greater responsibility to national competition authorities. Thus, in the antitrust field, in accordance with Regulation 1/2003, Romania’s competition authority and courts must implement – after the accession – Articles 81 and 82 of the EC Treaty in cases where cartel agreements or abuse of dominance may influence trade between member states. After that date, Romanian legislation may be implemented independently of the EC Treaty provisions only in cases of unilateral conduct in abuse of dominance cases and only if it is more severe than the European provisions. As a result, a solid training of judges should therefore be started immediately, together with the continuation of existing training programmes on European legislation for the staff of Competition Council.
3.1.2 Completing the liberalization process

Telecommunications

Assessment
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\(^8\) 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.

NRAC has identified the operators holding significant power on relevant markets and imposed them several requirements regarding transparency, non-discrimination versus the other players on the market, the setting of cost-based interconnection tariffs etc. RomTelecom was required to grant unconditional access to the local loop. The interconnection tariffs established by NRAC are below the average of the similar tariffs from other EU countries that have liberalized the electronic communication market, including new member states. Until August 2004, 27 operators have signed interconnection contracts with RomTelecom.

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.

Until August 2004, the National Regulatory Authority for Communications (NRAC) authorized 2281 companies to enter the market as providers of communication services. A number of 200 companies were authorized to provide telephony services, as follows: 142 - local call segment, 147 - long distance call segment, and 163 - international call segment.

Due to market opening, the fixed telephony services have become up to 30% cheaper, at selected operators (e.g. Astral Telecom). International tariffs have also decreased significantly, as previously RomTelecom had in PPP terms local, interurban and international calls higher than in EU member states. A controversial evolution, regarding market competition, is that the Government is participating by creating joint companies that will enter the fixed telephony market: Teletrans, Telecommunicatii CFR and POSTelecom.

As the EC Regular Reports for Romania have shown in the last years (2003, 2004) 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

---

\(^8\) Directives 2002/19/EC - 2002/22/EC and Directive 2002/58/EC;
operator resistance to increase its opening in terms of interconnectivity and to further rise prices.

**Utilities – the energy sector**

**Assessment**
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 new member states’ economies have a higher degree of market distortion than Romania; e.g., in Estonia, the main producer controls 90% of the market.

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 inflationary pressures in the short run. A related problem is the lack of the regulatory body. Even the on-going 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 all, 2002).

Transport

Assessment

Increase rail services competition
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 highway projects 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 member states), 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.

Financial services

Assessment
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 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.

Table 5: Romania – prudential regulations in the banking system

<table>
<thead>
<tr>
<th>Type of regulation</th>
<th>Prudential regulations</th>
<th>Comparison with EU standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum capital</td>
<td>ROL 250 billion (approximately EUR 8.8 million)</td>
<td>EUR 5 million</td>
</tr>
</tbody>
</table>
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)  20% (aggregate limit)
10% (individual FX position)

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

Source: NBR

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).

Table 6: Selected financial market indicators

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital market</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock market* capitalization, % GDP</td>
<td>3.36</td>
<td>4.32</td>
<td>3.95</td>
<td>6.19</td>
<td>10.09</td>
<td>10.63</td>
</tr>
<tr>
<td><strong>Banking sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital</td>
<td>10.25</td>
<td>17.90</td>
<td>23.79</td>
<td>28.80</td>
<td>25.04</td>
<td>19.98</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>adequacy (&gt;12%)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-performing loans, % of total assets</td>
<td>14.54</td>
<td>2.36</td>
<td>0.29</td>
<td>0.32</td>
</tr>
<tr>
<td>National Bank of Romania’s refinancing rate, % annual</td>
<td>38.0</td>
<td>35.0</td>
<td>35.0</td>
<td>35.0</td>
</tr>
<tr>
<td>National Bank of Romania’s refinancing rate, % annual</td>
<td>20.4</td>
<td>18.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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 quite small both in terms of share in total domestic financial assets (less than 10% of total assets of the Romanian financial markets as of mid-2004), 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.

3.2 Better regulation and more favourable business environment

Supporting enterprise and entrepreneurship

Assessment
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.

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 few 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. Most of the actions of MER have been induced by international financing and/or by NGO initiatives (such as Junior Achievement), 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 last amendment of the registration procedure occurred as recent as October 2004, requiring only three days for the registration of certain categories of firms. On-line registration is also envisaged for the near future.

Implementing the European charter for small businesses

26
Assessment
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 two reporting exercises in 2003 and 2004 (ECc, 2003), which provided detailed information about the measures taken by Romania in order to fulfil the objectives of the European Charter. Formally, the reports show 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.

Simplifying the regulatory environment to reduce the burden on business

Assessment
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. 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 a series of EU regulations.

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%.
3.3 RDI and the path to competitiveness

The national innovation system

Assessment
One could hardly describe the RDI (research, development and innovation) bodies shown in Figure 1 as a system.

Figure 1. The national innovation system in Romania

<table>
<thead>
<tr>
<th>FRAMEWORK</th>
<th>STRATEGY</th>
<th>DEVELOPMENT</th>
<th>IMPLEMENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Plan for</td>
<td>Government (not systematic)</td>
<td>Ministry of Education</td>
<td>Institutes under MER</td>
</tr>
<tr>
<td>Research and Innovation</td>
<td>Romanian Academy</td>
<td>and Research (MER)</td>
<td>or under the Academy</td>
</tr>
<tr>
<td>Law on Scientific</td>
<td>Inter-ministerial council for STI</td>
<td>Ministry of Communication</td>
<td>Higher education</td>
</tr>
<tr>
<td>Research and Technological Development</td>
<td>Parliamentary commissions</td>
<td>and Information Technology</td>
<td>institutions</td>
</tr>
</tbody>
</table>

Independent advisory bodies

None

Source: Voinea, 2004

The National Plan for Research and Innovation is merely a collection of 14 government funded programmes. The responsibilities for RDI within the Government have been mixed up on numerous occasions, because of the instability of the government ministries themselves: only over the last four years, some ministries with R&D responsibilities were created and destroyed, such as the Ministry for SMEs, or the Ministry of Development and Prognosis.

Outside the government funded programmes, only one sector has received constant attention and support: the IT industry. 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.

**Information society**

Romania has made significant progress in promoting new technologies specific for an information society in recent years.

The number of internet users almost more than doubled for the second consecutive year doubled in two consecutive years (2001 – 2003), and the costs of using internet decreased, as the competition among internet providers intensified.

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.

**Table 7: Available ICT indicators for Romania**

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>Ranking in the world*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quantitative indicators</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet users per 10,000 inhabitants</td>
<td>446.6</td>
<td>806.1</td>
<td>1905</td>
<td>46 out of 104 economies; higher than Greece, close to Bulgaria and Lithuania</td>
</tr>
<tr>
<td>Cellular telephones per 100 inhabitants</td>
<td>17.2</td>
<td>28.5</td>
<td>32.9</td>
<td>50 out of 104</td>
</tr>
<tr>
<td><strong>Qualitative indicators</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet access in schools, on a scale from 1-very limited to 7-most children have frequent access</td>
<td>3.3</td>
<td>3.8</td>
<td>4.0</td>
<td>44 out of 104 economies; higher than Bulgaria and GreecePoland</td>
</tr>
<tr>
<td>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</td>
<td>3.4</td>
<td>3.7</td>
<td>4.1</td>
<td>56 out of 104 economies; higher than Bulgaria and Latvia, same ranking with Slovenia</td>
</tr>
<tr>
<td>Laws relating to ICT, on a scale from 1-nonexistent to 7-well developed and enforced</td>
<td>3.1</td>
<td>3.6</td>
<td>4.1</td>
<td>40 out of 104 economies; higher than Slovak Republic, Hungary, Lithuania, Poland, Bulgaria, Greece</td>
</tr>
<tr>
<td>Government success in ICT promotion, On a scale from 1-not very successful to 7-highly</td>
<td>3.6</td>
<td>3.8</td>
<td>4.1</td>
<td>47 out of 104; higher than Lithuania, Hungary, Slovenia, Czech Republic, Slovak Republic,</td>
</tr>
</tbody>
</table>
In several respects, some of which are presented in the table 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 Central and Eastern European countries (new EU Member States) (8.4% in 2003), but comparable with the EU-15 average (6.2% in 2003).

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)

<table>
<thead>
<tr>
<th>Year</th>
<th>% GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>0.49</td>
</tr>
<tr>
<td>1999</td>
<td>0.40</td>
</tr>
<tr>
<td>2000</td>
<td>0.37</td>
</tr>
<tr>
<td>2001</td>
<td>0.39</td>
</tr>
<tr>
<td>2002</td>
<td>0.38</td>
</tr>
</tbody>
</table>

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 new member states was 0.83. Among new member states and acceding economies, Romania only exceeds Cyprus in this regard.

Government expenditure on R&D

<table>
<thead>
<tr>
<th>Year</th>
<th>% GERD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>52.91</td>
</tr>
<tr>
<td>1999</td>
<td>46.66</td>
</tr>
<tr>
<td>2000</td>
<td>40.80</td>
</tr>
<tr>
<td>2001</td>
<td>42.96</td>
</tr>
<tr>
<td>2002</td>
<td>48.40</td>
</tr>
</tbody>
</table>

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 – it has never exceeded 0.5% of total aid. By comparison, some EU members have up to a 20% share of R&D aid in total state aid. 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.

### Business expenditure on R&D

**Table 10: Business financed R&D**

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>% GERD</td>
<td>42.35</td>
<td>50.21</td>
<td>48.96</td>
<td>47.60</td>
<td>41.57</td>
</tr>
</tbody>
</table>

Source: INSSE (National Statistics Institute), 2003 and EU Commission, 2004

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.

### R&D financed from abroad

**Table 11: R&D financed from abroad**

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>% GERD</td>
<td>1.74</td>
<td>2.46</td>
<td>4.90</td>
<td>8.20</td>
<td>7.0</td>
</tr>
</tbody>
</table>


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).
Table 12: An alternative calculation of GERD including the IT industry

<table>
<thead>
<tr>
<th></th>
<th>GERD, % GDP</th>
<th>Government expenditure, % GERD</th>
<th>Business expenditure, % GERD</th>
<th>R&amp;D financed from abroad, % GERD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>0.56</td>
<td>29</td>
<td>65</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: based on data from INSSE, 2003

Evolution of the knowledge economy

Figure 2. Knowledge economy index, CEECs

Source: World Bank, 2004

Romania has improved in terms of information infrastructure, which confirms the above-mentioned assertions. Romania has also improved with respect to its education policy and outputs. In figures 3, 4, and 5 all countries above the median line currently record better performances than they had in 1995.

What can be remarked from these figures is that at the starting point (or the reference term – here, 1995) Romania lagged behind its region mates – Czech Republic, Hungary, Poland and Bulgaria. This fits with the widely accepted “path dependency” argument. The improvements made in terms of information infrastructure and of education have not filled that existent gap.

Moreover, the various indicators compounding the composite indicator of innovation have not improved significantly, on aggregate, since 1995. It seems to me very instructive that Hungary, Bulgaria and Poland are in the same situation (Poland even recorded a regress), although the stock of FDI has boomed in these countries since 1995. In Romania, for example, the FDI stock has grown from below 5% of GDP in 1995 to 20% of GDP in 2004. One might submit that FDI are not necessarily inducing innovation in the recipient countries; the technology transfer does not have a spillover effect...This issue will be addressed more in depth in the following sections.
Figure 3. Knowledge economy component: information infrastructure

Figure 4. Knowledge economy component: education
Figure 5. Knowledge economy component: innovation

Source for figures 4-6: own computation based on World Bank, 2004

Table 13. Other selected indicators of the knowledge economy, latest year available

<table>
<thead>
<tr>
<th></th>
<th>Romania</th>
<th>Western Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science and engineering enrolment ratio (% tertiary level students)</td>
<td>21.00</td>
<td>33.25</td>
</tr>
<tr>
<td>Researchers in R&amp;D / mil. pop.</td>
<td>880.63</td>
<td>3245.21</td>
</tr>
<tr>
<td>Number of patents granted by the United States Patent and Trademark Office (USPTO) / mil. pop.</td>
<td>0.13</td>
<td>1.82</td>
</tr>
</tbody>
</table>

Source: World Bank, 2004

The number of patents granted is low, as it places Romania again behind the EU new member states and 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.
Table 14. Balance of innovation, Romania, latest year available

<table>
<thead>
<tr>
<th>Royalty and license fees payments, mil. USD</th>
<th>85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Royalty and license fees payments / mil. pop.</td>
<td>3.8</td>
</tr>
<tr>
<td>Royalty and license fees receipts, mil. USD</td>
<td>3</td>
</tr>
<tr>
<td>Royalty and license fees receipts / mil. pop</td>
<td>0.1</td>
</tr>
<tr>
<td>Ratio of receipts / payments</td>
<td>0.035</td>
</tr>
</tbody>
</table>

Source: World Bank, 2004

The ratio of receipts to payments is very low; by comparison, the ratio of royalty and license fees receipts to payments in Western Europe is nine times higher (0.29). The local innovative activity is very unproductive.

An interesting calculation can be further drawn. Even if all royalty and licence fees payments are made by foreign affiliates (which is not the case), it results that the technology transfer through FDI is quite modest. The ratio between the royalty and fees payments, on one side, and the foreign direct investments, on the other side, is 0.072⁹, which means that only one in fourteen dollars invested in Romania goes back abroad as royalty and fees payments. This might suggest two explanations. First, the technology transferred to Romania is not so expensive – hence, not so new. Second, the FDI committed to Romania are not technology intensive (predominantly labour intensive). These two explanations are not excluding one another. In the same line of reasoning, it might be that the various governments’ attitude of positive discrimination towards FDI (sometimes inescapable) has contributed to foreign affiliates’ limited resort to innovation.

To conclude on the knowledge economy evolution, some knowledge diffusion indicators have progressed more rapidly than the knowledge creation ones (see some selected indicators in the table below).

Table 15. Knowledge economy evolution, by type of knowledge

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Creation</th>
<th>Diffusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving</td>
<td>- gross fixed capital formation</td>
<td>- royalties and licence fees payments</td>
</tr>
<tr>
<td></td>
<td>- internet users</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- e-government</td>
<td></td>
</tr>
<tr>
<td>Underperforming</td>
<td>- R&amp;D intensity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- number of researchers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- number of patents granted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- royalties and licence fees receipts</td>
<td></td>
</tr>
</tbody>
</table>

Source: Voinea, 2004

⁹ At an FDI average of 1,1 bn. USD over the period 1999-2003.
Policy recommendations

The central government can play an important role in the evolution of RDI activity, on conditions it will be focused on realistic objective. For example, we committed, in EU negotiations, to reach the 1% of GDP in governmental R&D expenditures by 2007 – a target too ambitious even for most EU members, which doubt whether they will achieve the 1% target by 2010. What could be realistically done? Some suggestions are presented below.

1. An independent advisory body should be created to fill in the current gap between the strategic and executive levels in the Romanian innovation system. Such an advisory boy exists in all EU core countries, where it has contributed to the development and implementation of a coherent RDI strategy.

2. The transfer of state aid from current objectives (mainly rescue and debt forgiveness) to R&D horizontal objectives. This would allow the further existence of state aid, on the one side, and would contribute to the needed technological advance of Romanian companies.

3. Venture capital for innovative firms needs to be raised, and the government could provide a co-financing for a venture capital fund aimed at supporting innovative firms. Such an experience has proven useful in countries like Germany or Ireland, and more recently in Hungary.

4. Business R&D expenditures need to be supported by indirect financial measures, which are allowed by EU regulations. Tax incentives for R&D activities are now being used on an increasingly larger scale in Europe. This does not refer only to start-ups or technological parks, but fiscal incentives can also be linked to the share of R&D expenditures in turnover or the share of R&D employees in total employees, or the number of patents registered each year.
4. 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.

4.1 Addressing structural and long-term unemployment

**Assessment**

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)\(^\text{10}\) 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.

\(^{10}\) World Bank (2004);
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 occupation 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 would not help Romania 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%\(^\text{11}\) 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.

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. 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.

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 contration, 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 unemployment levels, recorded through the Local Force Survey

\(^\text{11}\) Labour Force Survey figures, INSSE;
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 mentioned earlier. The large informal economic sector, estimated at around 20% 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. On the other hand, the important number of workers who found jobs abroad lowers dramatically the real unemployment figure. So far, only few of those who work abroad are officially registered as workers. Many of them are still considered unemployed in the official domestic statistics.

According to the World Bank CEM\textsuperscript{13}, 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 is 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.

4.2 Providing more and better jobs

Assessment
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 previously mentioned, 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.

Recently, Romania has taken steps to reduce the period of time necessary for the registration of new businesses. For the majority of enterprises, the registration time will be only three working days. This is a step in the right direction, although there

\textsuperscript{12} According to the Romanian National Institute of Statistics (NIS) methodology;

\textsuperscript{13} Country Economic Memorandum, see before;
are voices arguing that the process is more expensive, and more complicated than before for certain categories of firms.

Improving registration conditions it is not enough to create new sustainable jobs, if the competitive environment in which firms to operate is not created. According to a recent study\(^\text{14}\), which analysed companies from 1995 to 2002, the top 20% of the companies, which totalled around 80% of the sectoral turnover, also accumulated almost 80% of the total debt, and this finding was consistent through time. This indicates the distortion of the economic environment in Romania, since large companies are given an unfair advantage over the rest of the firms. This discourages otherwise profitable firms from setting up, or from growing, preventing new job creation.

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.

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. The education system is undergoing a comprehensive reform, which has already produced significant changes, especially in

\(^{14}\) see Mereuta, C. (2004);
compulsory educations. Reform measures were piloted in the vocational education and training system.

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.

4.3 Enhancing social cohesion through reforming the pension system

Assessment
Romania’s population trend has been negative since 1990, with no signs of reversing in the near future. As in most of Europe, if the trend does not reverse, Romania’s population will grow older, and more public resources will be dedicated to the social insurance and assistance. Due to the promotion 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 PAYG pensions system is well over one, one of the worst in Europe. 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.

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 with 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.
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. Although the algorithm is still in place, the current challenge is to correct the large discrepancies that arose due to different computing schemes that have been in place in the last 14 years. As 2004 is an electoral year, the recent tendency was to increase pensions by recalculating them. Beginning with October 1st, a new pension re-correlation has started, which is likely to significantly increase the deficit of the pension fond, in the medium term.

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.

**Policy recommendations**

Romania has already started a reform programme needed to promote increased participation to the labour markets. The robust economic growth, expected over the next few years, should make job creation easier, and the declining trend in the participation rate should be reversed. But, in addition to promoting growth as a means to increasing employment, Romania needs policies targeted at the most vulnerable categories of workers. Women and older workers, in general, are less likely to find jobs. The promotion of non-discriminatory legislation, without any consideration being paid to the enforcement, as it currently happens in Romania, does not help. The practice of employers requesting male candidates under 35 years of age has not disappeared, although it is not pursued in the as openly as before.
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. Education institutions should conduct studies to identify match and mismatch situations and reorient profiles, study streams, and curricula, in order to create an educated labour force with the right qualifications. The unemployed should be stimulated to undertake training in order to update or even change their skills. This requires an increase in the budget devoted to active labour market programs, towards EU levels. The current 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. In the same time, firms should be encouraged through fiscal incentives to invest in their workers, by upgrading their skills through on the job training or lifelong education.

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, a competitive business environment where all actors involved play by the same rules, needs to be established, which implies giving up the current practice of allowing firms to operate just because they have large working force, or the right political connections.

Sixth, the use of early retirement policies should be made more restrictive both by gradually increasing the retirement age and by limiting the categories of workers and individual cases that qualify for special treatment.

The new pension system has corrected some problems, but it still has to go a long way. The introduction of the new alternative pension schemes should alleviate the problems that the state pensions system is currently experiencing, but not in the near future. The most important thing for now is to resist the temptation to reverse to populist practices that would increase the fund’s deficit in order to win political support.

4.4 Free movement of workers and the impact of migration

Given its size and the subsequent economic and social implications, the phenomenon of external migration can no longer be omitted when analysing the present realities of Romania. The extent of external migration is difficult to quantify, and different
sources give different estimates. They range from 800,000 to 1,700,000 people living and working outside the borders of the country. Economic migration has flourished as the borders of the EU have gradually opened to Romania. The explanation of the large population outflow that Romania experienced following the collapse of communism is attributable to both the earnings differential between Romania and the EU and the limited employment opportunities available in the country following the concomitant shift and contraction of the labour demand. The average gross monthly salary in Romania is less than 200 euro, while in the EU is, on average, at least 6-7 times higher.

Empirical evidence suggests that the main reason for economic migration rests with the harsh economic environment in Romania and the asymmetry of the adverse shocks, affecting differently regions, age groups, and categories of workers. The effect was an increase in the internal, but mainly the external migration. Regarding the internal migration, Romania has experienced a net flow of people from the urban to the rural areas in the past decade, opposite to what one might expect to find in an emerging economy. The deteriorations in the living standards of industry workers, due to job destruction or (early) retirement, has pushed people to search for different solutions: either by moving to the country side, where subsistence agriculture has become the “employer of the last resort”, or joining the hundreds of thousands that work abroad, in general informally. The latter make enough money to also support their families back home. A recent survey found that around 12% of Romanian household had at least one member working outside Romania. The migrants are, in general, workers located at the tails of the skills distribution, primarily unskilled and highly educated. The main destination of the migrants is Western Europe, with the Iberian Peninsula and Italy holding the top seats, but North America and Israel are also important. Patterns of chain migration are well documented and entire villages and small cities have been depleted of labour across the country.

The short and medium term effects for the economy of the massive external migration are important. The large outflows of young working age people have an impact on the demography and contribute to the ageing of the workforce, reducing the size of the active population and the number of contributors to the social assistance budgets and, hence, increasing the pressure on the social security expenditure. At the same time, the migrants send home to their families large amounts of transfers (remittances), which substantially contribute to the surplus of the balance of payments. These remittances form a private social security net, which compensate for the flaws of the state supported system. The CURS survey found that workers send back to Romania, on average, Euro 200 per month, totalling around Euro 2 bn. per year, a sum larger than the annual foreign direct investment inflows. This boosts, ceteris paribus, household consumption and investment. This is already apparent in some villages and cities of Romania, where the construction industry and services are flourishing. The real convergence in incomes towards the EU levels and the increased opportunity costs to migrating, already visible in the last years, and attributable to the sustained economic growth achieved, are likely to diminish migration flows in the longer run, similar to the experience of the cohesion countries of the EU.

15 According to estimates of the International Organization for Migration;
16 The average gross salary was in august 2004 around ROL 8 mn. (approx. EUR 200), according to the Romanian Statistical Institute.
17 Done by CURS in 2003;
5. Environmental sustainability

Since its inclusion in the Treaty in 1997, sustainable development is recognised as an overarching goal of the EU. The adoption of the EU Sustainable Development Strategy in June 2001 at the Gothenburg European Council marked a turning point: the need to pursue in a balanced way economic growth, social improvements and environmental protection was translated into a set of detailed objectives and actions. At the same time, through the decision of member states, the Lisbon agenda was supplemented by a third, environmental pillar.

In 2002, the Council and European Parliament adopted the 6th Environment Action Programme (EAP), setting out the EU’s environmental roadmap for the next ten years. The 6th EAP is the main vehicle by which to achieve the environmental goals of the Sustainable Development Strategy. It sets ambitious, often quantified targets which highlight the long-term commitments of the Union to environmental protection and consequently provides a predictable framework for public and private actors in Europe and the rest of the world.\(^{18}\)

This section is structured around the four priority issues of the 6th EAP (climate change; nature and biodiversity; resource management; and environment and health). The overall goal is to assess Romania’s progress towards sustainable development, as well as to provide brief policy recommendations on the key trends and challenges ahead.

5.1 Climate change

Assessment

Romania has been the first European country which signed the Kyoto protocol, thus showing its commitment to support sustainable development. Regarding the objective of reducing greenhouse gas emissions, Romania emerges as 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. According to current benchmarks, Romania could even increase its greenhouse gas emissions, along with revitalising industrial production and economic growth.

Much of the greenhouse emissions are caused by the energy industries. 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.

In addition to the energy sector, 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 based 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.
5.2 Nature and biodiversity

Biodiversity reflects the complexity, balance and status of the various ecosystems. At the Gothenburg European Council the EU has committed itself to halting the loss of biodiversity by 2010. In order to fulfil these objectives, current agricultural and fishing practices, which place considerable pressure on biodiversity, need to be made more sustainable through increased integration of environmental considerations.

Assessment

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, and to a great extent the harmonisation process with the EU *acquis* has ended. The registration system for organic farming operators (producers, processors, importers) was introduced in 2002. Since then, seven inspection and certification EU bodies have been authorized to perform inspection and certification of organic agri-food products within the Romanian territory. In addition, a Romanian inspection and certification body, ECOINSPECT, was also established.

Starting with 2004, the organic farmers will be eligible for public financial support through a special state-aid scheme. Besides the funding from the state budget, the organic agriculture sector will benefit from financing through EU and World Bank programmes.

In the private sector, 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.

However, although the progress is encouraging\(^\text{19}\), the strategy in the field still 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.

\(^{19}\) the total land area used for organic farming has more than tripled in the period 2000-2003;
5.3 Resource management, environment and health

Decoupling environmental degradation from economic growth is a central theme of the EU Sustainable Development Strategy. One of the ways to achieve it is through a significant increase in resource efficiency.

Assessment

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.

Policy recommendations

Romania needs to invest around 30 billion euro\(^\text{20}\) in order to implement EU environment standards. Although the government has committed to deliver such investment and has closed the environment chapter in the negotiations with the EU, there are several issues which still need to be clarified. One of the most critical ones is how the public and private funds will be generated\(^\text{21}\).

Moreover, given the high cost of meeting the environmental directives, it is important to show the benefits of such reform. Research\(^\text{22}\) has already shown that the potential benefits related to meeting the air standards are generally the highest, followed by the benefits resulted from implementing water standards. The most questionable fields in terms of benefits are the ones related to waste treatment. For Romania, a recent analysis (World Bank 2004) shows that the benefits of upgrading air quality can be estimated at a present value of EUR 7.6 billion against an estimated investment of EUR 2.8 billion. For the water benefits, the net result is negative, with an EUR 4.0 billion spent against a capital cost of EUR 7.2 billion. As concerns the waste treatment, the benefits may be a mere EUR 825 million against an investment of EUR 8 billion. Certainly, these are only estimates, but they provide a clear picture on the cost-benefit analysis in terms of sustainable development. Therefore, one important

\(^{20}\) there are different estimates on the total cost of implementing the environmental standards in Romania, but all of them suggest amounts over EUR 21bn.;

\(^{21}\) World Bank (2004);

\(^{22}\) idem.;
conclusion is that the transition periods should be well used for phasing water and waste investments, while air investments are welcomed.

Moreover, the successful execution of the environmental directives does not depend only on the availability of funds. Without the strengthening of the institutional capacity and the integration of environmental policies into the overall policy framework, the desired results will not be achieved.
6. CONCLUSIONS

Aiming at building an innovation-based economy is a rational goal for any state. This is the path to competitiveness, growth and economic prosperity. But one thing is to aim at reaching an innovating economy, and another thing is to actually accomplish such a daring goal.

For a country like Romania, which is still struggling to construct a well functioning market economy, it may sound inappropriate to push for innovation or take care of the environment as top public policy agenda. A gradual approach would focus on consolidating economic transformation and fulfilling all pre-requisites of a functional market economy. If the economy is sound, the need for knowledge and innovation should be natural. The same would apply to the need to increase social cohesion and to protect the environment.

But Romania does not have the luxury to wait. Without proper policies, Romania will have to wait between 50-60 years in order to reach the average income per capita of the EU\textsuperscript{23}. Therefore, the only solution for Romania is to burn stages, and to push for an accelerated and vigorous catching-up policy. Such a policy needs to start from fostering education, investment in human capital and intense assimilation of modern technologies for growth leaps.

Briefly, the main conclusions can summed up as follows:

Knowledge diffusion (technology absorption) is more intense than knowledge creation, which is not surprising in the view of the state of the Romanian economy. When innovation and research are assessed, one should not forget the dual characteristic of the Romanian economy: 40% of the population lives in the rural area and has little to do, if anything, with innovation and research.

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 subchapter 3.1.2 of this report should be illustrative. For telecommunications and utilities, prices could be compared, as price convergence should occur in the long run.

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.

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.

\textsuperscript{23} The Economist Intelligence Unit, 2003;
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.
REFERENCES:


3. Center for Economic Development (2004), Bulgaria and the Lisbon Agenda goals, Sofia

4. Citizens Development Corps for the CHF Consortium in Romania, Assessment Report: IT Sector


12. Danish Ministry of Economic and Business Affairs, Danish Ministry of Science, Technology and Development (2004), Improved competitiveness in Europe – the precondition for growth and jobs

18. European Commission (2004a) - Delivering Lisbon reforms for the enlarged Union, report from the Commission to the spring European Council, Brussels
21. Extracts from Presidency conclusions on the Lisbon strategy by theme (2003), European Councils: Lisbon to Thessaloniki
25. IBM (2003), 4th Report on Monitoring of EU Candidate Countries (Telecommunication Services Sector)
27. Mario Monti (2003a), "Contribution of Competition Policy to Competitiveness of European Economy", Institute of European Affairs, Dublin
31. National Statistics Institute (2003), The research and development activity in Romania, Bucharest
33. OECD Investment Compact (2003), Enterprise Policy Performance. A Regional Assessment (EPPA)
34. Olievski, V. (2004), Strategia de dezvoltare a sistemului de transport feroviar in perioada 2004 – 2025
47. Voinea, L. (2003), Specialization without change: foreign direct investments in Romania and foreign trade, The New Economists on Transition in Romania, Ed. Enciclopedica, National Bank of Romania Collection, 31
Web pages:
56. www.europa.eu.int/comm/eurostat (Eurostat)
57. www.anrc.ro (National Regulatory Authority in Communications)
58. www.mcti.ro (Ministry of Communications and Information Technologies)
59. www.jrc.es (Institute for Prospective Technological Studies – Seville)
## ANNEX: Monitoring Romania’s Progress – The Structural Indicators of the Lisbon Strategy

<table>
<thead>
<tr>
<th><strong>Innovation and research</strong></th>
<th>Unit</th>
<th>Romania</th>
<th>EU max</th>
<th>EU min</th>
<th>CCs min (except Romania)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spending on human resources</td>
<td>% GDP</td>
<td>3.28</td>
<td>7.32</td>
<td>3.51</td>
<td>3.66 Bulgaria</td>
</tr>
<tr>
<td>Total R&amp;D expenditures</td>
<td>% GDP</td>
<td>0.38</td>
<td>4.27</td>
<td>0.64</td>
<td>0.27 Cyprus</td>
</tr>
<tr>
<td>Business R&amp;D</td>
<td>% GERD</td>
<td>41.6</td>
<td>71.88</td>
<td>31.54</td>
<td>15.28 Cyprus</td>
</tr>
<tr>
<td>Government R&amp;D</td>
<td>% GERD</td>
<td>48.4</td>
<td>60.95</td>
<td>20.99</td>
<td>37.08 Slovenia</td>
</tr>
<tr>
<td>R&amp;D financed from abroad</td>
<td>% GERD</td>
<td>7</td>
<td>18.68</td>
<td>2.47</td>
<td>1.89 Slovakia</td>
</tr>
<tr>
<td>Level of internet access</td>
<td>% households</td>
<td>4.5</td>
<td>65.5</td>
<td>12.2</td>
<td>5 Bulgaria</td>
</tr>
<tr>
<td>Patents EPO</td>
<td>no per million inh.</td>
<td>0.7</td>
<td>366.5</td>
<td>5.4</td>
<td>2.08 Bulgaria</td>
</tr>
<tr>
<td>Patents USPTO</td>
<td>no per million inh.</td>
<td>0.49</td>
<td>213.6</td>
<td>1.9</td>
<td>0.6 Bulgaria</td>
</tr>
<tr>
<td>IT expenditures</td>
<td>% GDP</td>
<td>1.1</td>
<td>4.4</td>
<td>1.2</td>
<td>1.9 Lithuania</td>
</tr>
<tr>
<td>IC expenditures</td>
<td>% GDP</td>
<td>5.3</td>
<td>4.4</td>
<td>2.6</td>
<td>4.7 Slovenia</td>
</tr>
</tbody>
</table>

### Liberalization

| **Price of telecom: local calls** | euro, 10 min. call | 0.27 | 0.56 | 0.23 | 0.09 | Bulgaria |
| **Electricity prices: industrial users** | euro per Kwh | 0.04 | 0.082 | 0.052 | 0.045 | Estonia |
| **Gas prices: industrial users** | euro per GJ | 2.29 | 6.80 | 5.26 | 2.91 | Estonia |

### Enterprise

| **Time to start a business** | days | 27 | 123 | 18 | 11 | Latvia |
| **Cost to start a business** | % income per capita | 11.7 | 69.6 | 1 | 8.3 | Bulgaria |
| **State aid** | % GDP | 6.3 | 1.58 | 0.66 | n.a | |

### Employment and social cohesion

<p>| <strong>Total employment rate</strong> | % of total population | 57.6 | 75.9 | 55.5 | 50.6 | Bulgaria |
| <strong>Life long learning</strong> | % of adult population receiving education and training | 1.3 | 34.2 | 3.6 | Portugal | 1.4 | Bulgaria |</p>
<table>
<thead>
<tr>
<th></th>
<th>training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inequality of income distribution</td>
<td>ratio of income - top quintile to lowest quintile of population</td>
</tr>
<tr>
<td></td>
<td>4.6</td>
</tr>
<tr>
<td>Early school leavers</td>
<td>% of 18-24 aged population</td>
</tr>
<tr>
<td></td>
<td>23.2</td>
</tr>
<tr>
<td>Total long term unemployment</td>
<td>% of total active population</td>
</tr>
<tr>
<td></td>
<td>3.8</td>
</tr>
</tbody>
</table>

**Sustainable development**

<table>
<thead>
<tr>
<th>Environmental indicators</th>
<th>indicator details</th>
<th>EU max</th>
<th>EU min</th>
<th>CCs min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions</td>
<td>% of the base year (1990), target: 8% cut by 2010</td>
<td>92</td>
<td>125.0</td>
<td>Greece</td>
</tr>
<tr>
<td></td>
<td></td>
<td>72.0</td>
<td>Luxembourg</td>
<td>92.0</td>
</tr>
<tr>
<td>Energy intensity of the economy</td>
<td>kg of oil equivalent per 1000 euro</td>
<td>1164</td>
<td>263</td>
<td>Finland</td>
</tr>
<tr>
<td></td>
<td></td>
<td>125</td>
<td>Denmark</td>
<td>341</td>
</tr>
<tr>
<td>Share of renewable energy</td>
<td>% gross national electricity consumption</td>
<td>28.4</td>
<td>67.3</td>
<td>Austria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.6</td>
<td>Belgium</td>
<td>0.8</td>
</tr>
</tbody>
</table>

*Sources: Eurostat, Romanian National Institute of Statistics, World Bank*

**Methodological notes:**

1. 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.

2. Several important Lisbon objectives 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.