

Poverty and Social Impact Analysis of Mining Sector Reform in Romania: A Policy Note

Overview: Identifying Key Challenges

This note identifies the key challenges arising from the social impacts of mining sector restructuring in Romania and suggests policy options for addressing them.

The PSIA (see box) was initiated to contribute to the ongoing policy dialogue between the Romanian government and the World Bank about the key issues identified in mining sector strategy development and implementation of the US\$44.5 million Mine Closure and Social Mitigation Project (MCSMP) to date, and to offer the Bank's views on these issues for the government to consider as it initiates implementation of a second loan of US\$120 million for Mine Closure, Environmental and Socio-Economic Regeneration (MCESER).

The government of Romania outlined its mining sector strategy in October 2004. The strategy was designed to define basic objectives for mining sector restructuring, including elimination of all subsidies to the mining sector by 2010 to comply with the European Union's criteria for accession, and the changes needed to achieve them.

The objectives of the strategy are to create a favorable environment for private sector development in the mining sector and creation of new jobs within the mining regions.

The strategy involves the people of the mining areas in the implementation of actions and measures, together with the local and central authorities responsible for providing the organizational and regulatory framework and the

instruments to achieve these objectives. The strategy was prepared under the supervision of the Minister of Economy and Commerce and supported by technical assistance from the World Bank under the MCSMP. This cooperation provided the basis for subsequent Bank support for the mining sector in Romania.

Poverty and Social Impact Analysis (PSIA) is the analysis of the distributional impact of policy reforms on the well-being or welfare of different stakeholder groups, with particular focus on the poor and vulnerable. PSIA has an important role in the elaboration and implementation of poverty reduction strategies in developing countries. It promotes evidence-based policy reform options.

PSIAs typically seek to:

- Examine the assumptions underlying a specific reform
- Evaluate the potential poverty and social impact
- Assess the short-term and the long-term aspects of reform
- Provide policy options that maximize the benefit of a reform
- Involve a broad range of stakeholders in a debate of the reform being considered.

PSIA is often applied to contentious or sensitive reforms, or to reforms expected to have a large impact.

Country & Reform Context

Romania's size, population, location, and natural endowments, together with recent economic and political reforms, offer the prospect of economic growth and international competitiveness,

provided the country can continue to improve its macroeconomic performance, institutional capacity, and human capital endowments.

The Socioeconomic Environment

To put this study in perspective, it is necessary to recognize that the period under review is one of considerable hardship, typical of the early years of transition from a centralized to a market economy. GDP growth was negative until 2000, the economy taking its time recovering from the downturn. Inflation remained over 30 percent through 2001, falling to 15 percent in 2003. This obviously had an adverse effect on poverty.

The 1997 Poverty Assessment (based on 1994 data) found that 21.5 percent of the Romanian population lived below the poverty line, with 30 percent of households reporting difficulty in making ends meet. The 2003 Poverty Assessment (2002 data) found 29 percent of Romanians to be poor, with even higher levels of dissatisfaction, even among the nonpoor: 42 percent considered their income insufficient to cover their food needs, and 59 percent estimated that their current incomes were not enough to cover current expenditures.

The Mining Sector

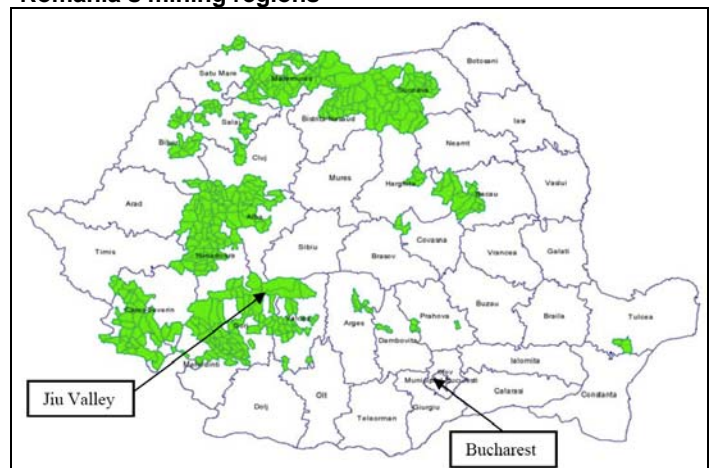
Mining activities are dispersed over six of the eight regions of Romania, but the west and northwest contain particularly heavy concentrations of mining activities (see map). The Mining Strategy states that prior to 1989, mining employed some 350,000 people directly and generated another 700,000 jobs indirectly. As is typical of other centralized economies, the remit of mining enterprises within the mining regions extended beyond economic production to expansion of mining towns and provisioning of infrastructure and social services.

This entire system collapsed with the demise of communism, and employment opportunities contracted. Most mining towns being mono-industrial, the impact was particularly severe when boomtowns went bust. The knock-on effect of mine downsizing led to adverse impacts on mining localities, both through the loss of jobs in secondary enterprises and the service industry

and through the decline in quality of local infrastructure and social services.

In the early 1990s, Romania had an estimated 464 mines of various dimensions for coal and other minerals. Of these, production has been terminated in 344 of the most uneconomic mines. Of these, 82 have been completely closed and the physical closure of 191 mines contracted; the remainder are currently under care and maintenance awaiting ultimate closure. At the beginning of 2004, an estimated 120 mines were still in operation, but many were still uneconomical and dependent on budget subsidies and debt write-offs, generating quasi-fiscal deficits estimated at 0.5 percent of GDP.

Romania's mining regions



Closure of uneconomic mines has triggered large-scale redundancies in the mining sector in Romania since 1997. The work force was reduced from 171,000 in 1997 to 50,000 in 2004. Significant downsizing occurred in 1997 through a process of voluntary redundancies induced by a generous severance package of 12-20 months wages. Layoffs have continued since then—with up to 10,000 workers leaving the industry annually.

The government recently approved a National Strategy of the Mining Industry that includes redefined priorities for the sector and the financial restructuring of mining companies. The objectives of the strategy are to create a favorable environment for private sector development in the mining sector, and the creation of new jobs through economic diversification within the mining regions.

Implementation of the mining sector strategy will require additional mine closures in some regions. While the social protection obligations of the government—in terms of payment of wages, severance pay, and unemployment benefits—have been met, the settlements affected by mining sector restructuring have faced severe hardships in the form of high unemployment and decline in quality of life, local infrastructure, and social services.

The strategy consists of involving the people of the mining areas in the implementation of actions and measures, together with the local and central authorities who have to provide the organizational and regulatory framework and the instruments to achieve these objectives. The reform process reflects both important strengths and opportunities and persistent challenges in Romania's mining sector in the context of fast-approaching EU accession.

The Mining Sector—Reformed

The mining sector falls under the jurisdiction of the Ministry of Economy and Commerce (MEC). It is now subdivided geographically into 12 publicly owned mining companies (incorporated from their former public sector status), with specialization in different minerals. The largest two, CNH Petrosani for hard coal, and CNLO for lignite, are geographically concentrated, while the others are more dispersed. The two smallest—for uranium and salt—each employ around 1 percent of the mining sector's workforce.

Under communist rule the mining sector was a privileged sector with relatively high wages and politically influential trade unions. As was the case for many other state-owned industries, the relationship between the trade unions and mine managers in Romania, as well as trade unions and the government, was historically quite close, rather than antagonistic, as in many other countries. This legacy continues to have an influence on current relationships, making reform more challenging.

Ex-Post Impact Assessment of Sector Restructuring

The PSIA consisted of a series of products and process tasks undertaken in FY05, including:

- An ex-post quantitative analysis of household survey data to assess the welfare impact of the ongoing mining project
- Secondary analysis of sector-wide and economy-wide data and qualitative research on the gender impacts of mining sector restructuring
- A comparative study of three pairs of mining and nonmining towns (Comanesti, Moinesti, Baia de Aries, Sebis, Borsa, and Negresti-Oas) to assess the impact of sector restructuring on local communities and the ability of local government agencies to maintain local infrastructure and social services
- Comparative analysis of the budget of mining companies
- A cost-effectiveness study to compare the efficiency of active labor-market interventions.

The impact of mine closure on household welfare is transmitted through several channels, including employment and access to basic services and government transfers. In the short-run, when the process of economic diversification and reemployment generation is limited, workers laid off in the mining regions are expected to experience a sharp welfare loss as a result of income losses, although well-targeted social protection measures can reduce the extent of the effect.

The welfare impact of the reform is also transmitted through households' access to basic services. Evidence shows that regions with major mining sector downsizing are likely to observe a deterioration of basic services (health, education, electricity and water). A case study shows that in Anina, a small mining town, only three doctors remain at the hospital, which struggles to maintain medical equipment. Human capital losses (many qualified teachers and medical staff left mining towns after mines closed) affect the quality and availability of basic services.

Econometric Analysis

The ex-post PSIA involved econometric analysis of four rounds of household survey data to examine both the welfare impact of sector restructuring on different stakeholders, and the impact of targeted social mitigation programs.

- Laid-off miners experienced the largest probability of a welfare decline (see table). But laid-off miners are almost certainly not the worst off, since they had higher income levels to begin and also received special severance payments of 12–20 months wages denied to other sectors.
- While laid-off miners benefit from social protection and various budget subsidies, those employed outside the mining sector are unlikely to receive any compensation, despite the fact that their living standards were significantly affected by mine closure.
- Severance pay entitlements are restricted to public sector employees, but other program benefits can be extended to all affected persons, including those affected by second-order impacts within the mining regions.

See Table 1: Welfare Impact of Mining Sector Downsizing across Stakeholders (p. 8)

The impact analysis confirms that the MCSMP has been well targeted geographically. Reemployment probability improved from 38 to 47 percent in program localities, and there is a visible decline in the pessimism prevalent within mining localities.

- Compared to an initial target of 10,000 jobs under the MCSMP, the National Agency for Development and Implementation of Reconstruction Programs for the Mining Regions (Agentia Zonelor Miniere, or AZM) has created more than 13,000 jobs, with another 6,448 jobs created or sustained by the micro-credit program.
- In terms of outcomes, mining localities are not better off than nonmining localities, but this is not surprising, given that they were much more severely affected by sector restructuring, and improvements in mining localities are evident.

- Public awareness of AZM's programs needs to improve significantly.

Mining has a Gender Bias

Women have been disproportionately affected by mining sector reforms but have not benefited from compensatory programs to the extent that they should:

...gender blind programs do not reach women equitably... more focused programs aimed at women could offset built-in disadvantages.

- Direct loss of jobs from the mining sector was proportionately greater among women, who constituted 16 percent of the workforce in 1997 but are down to 7 percent now.
- Women's reemployment chances are 16 percentage points lower than men's in the mining regions (see table), despite the fact that the nationwide unemployment rate for women (7.7 percent) is lower than for men (8.9 percent).
- Women are entrepreneurial but are concerned about risks associated with informal work, which further reduces their employment prospects.
- Women are just as keen on emigration as men but appear to be less able to do so.
- Women also suffer more from secondary impacts: while not statistically representative, field data suggest a significant increase in domestic violence, divorce rates, and burden of childcare, as preschool facilities become less affordable.
- Most important, although existing programs do not discriminate against women, gender-blind programs do not reach women equitably. Because this is an unanticipated result, the study recommends that the government consider more focused programs aimed at women to offset built-in disadvantages.

See Table 2: Social Impact on Women (p.8)

Variations in the Regeneration Potential of Mining Communities

The objective of the study was to analyze the impact of restructuring on local communities by comparing three mining towns with three matched pairs of similar nonmining towns. Three mining communities were selected from three different regions: Comanesti in the East, Borsa in the North, and Baia de Aries in the West, representing three different cultural traditions. For each of these, a nonmining locality comparable in terms of population size and geographical location was selected, with help from AZM to ensure comparability: Moinesti in the West, Negresti Oas in the North, and Sebis in the West. The matched pairs were selected to control for cultural differences, however, these differences were overshadowed by local asset endowments and economic characteristics.

Key socioeconomic, cultural, infrastructural, and institutional information was collected through focus groups, key informant interviews, and official regional statistics.

The working hypothesis was that mining communities affected by mine closure would be affected even further if the communities lacked the resilience and the local municipalities the resources to maintain local infrastructure and services. If correct, this would constrain the socioeconomic regeneration of these mining communities. The inquiry therefore focused on six research areas: (a) the state of physical and social infrastructure, and the availability of resources for infrastructure development; (b) key social characteristics, livelihood strategies, and power relations; (c) external communication links; (d) effects of anti-poverty and development programs; (e) impact of main economic stakeholders; and (f) social stakeholders and associational life. Official data sets supplemented the analysis.

Interventions tailored to local opportunities

Development interventions must tailor programs to local opportunities. The comparison of mining and nonmining towns provides clear evidence that the former are generally in much worse shape than the latter. However, there is considerable diversity in economic performance

and resilience of the towns affected by restructuring.

- The main determinants of the ability of mining towns to cope with restructuring impacts are:
 - The nature of the economy—monoindustrial or dual
 - The age of the restructuring process
 - The history of market linkages outside the mining regions.

Towns that are monoindustrial have a harder time adjusting to mine closure because alternative livelihoods are created much more slowly. Towns with textile industry, by contrast, have attracted foreign investors and created jobs, especially for female workers.

- Nonpayment of taxes or tax arrears, typical of mining companies, has had a marked impact on the ability of local authorities to maintain local infrastructure and finance social services. However, financial needs to rehabilitate local infrastructure are larger than the resources that would be available to local authorities even if the mining companies paid all their local taxes.
- Local authorities are also concerned about the deteriorating condition of local infrastructure, which makes mining localities even less attractive to potential investors. To fully address the adverse impacts of mining sector restructuring it would be necessary to complement active labor market measures with investments in local infrastructure to create the enabling conditions for enterprise development.
- Accelerating socioeconomic regeneration will require investment in community capacity building. The demonstrated value of such investments by AZM in pilot areas needs to be scaled up rapidly.

Distributional Impact within the Mining Sector: Insights from Company Budgets

The analysis of mining company budgets provides additional insights into nominal and real transfers from the budget to the mining

sector, and into the internal dynamics of that subsidy within the mining sector. There seems to be a problem of misspecification of subsidies. Two categories of expenditures—capital allocations and revenue lost because of nonpayment of current debts to the state (including social insurance, the national fund for health social insurance, and the unemployment fund)—are not included in the current estimates of subsidies either at the aggregate or company level. Were these to be included, the real transfer would be around 5 percent of GDP, not a trivial amount.

The analysis of three indicators—wages, the pace of downsizing, and state transfers to mining companies—reveals significant discrepancies among companies, with the largest company, CNH Petrosani (the hard coal company), being privileged over others.

Wages

- Analysis of wages requires controlling for inflation and purchasing power parity. Adjusting for inflation, the real wage per worker is projected to decline (2004–10) in all mining companies. Assuming moderate inflation, the wages are likely to be sufficient to keep employees out of poverty, as they are projected to be close to \$2 a day in all companies.
- CNH Petrosani pays double the average wage for the mining industry, notably higher than the other mining companies. The output per CNH worker is higher than average, but not the highest. The ratio of output to salary for Petrosani is close to the median, reflecting above average wages but also above average labor productivity.
- The high wage bill implies that none of the nine mining companies analyzed would be capable of breaking even if sales were the sole source of revenue.

Downsizing

- For the period January 2003 to January 2006, the nine companies projected downsizing to 62 percent of their 2003 labor force. With rates from 10 to 50 percent, downsizing is not evenly distributed among the companies.

- Most companies reduced their workforce by 75 percent or more between 1997 and 2004 and were targeting 80–90 percent by 2006. CNH Petrosani is the outlier. Although 50 percent of the workforce was laid off in 1997–8, downsizing in CNH slowed down significantly after the initial layoffs. Layoffs are projected to reach 75 percent of the 1997 numbers only in 2010, but still they will be less than the industry average.
- From a cost-benefit perspective, the rationale for downsizing is well founded, as it will permit losses to be eliminated, and subsidies to be forgone, in a little more than a year for most companies.
- The strategic choices made in the mines' downsizing process are not always supported by budget figures. The low downsizing rate at CNH Petrosani, coupled with the highest potential savings per downsized worker, invited further analysis of alternatives. The economic rationale for further downsizing in CNH Petrosani is convincing; yet planned downsizing is modest and less than the average of the eight other companies. The estimated economic cost of this slower pace of downsizing in CNH Petrosani in 2003–6 is US\$12 million.

State Transfers

- In 2003, state transfers were an important source of revenue for all companies, but with considerable spread: from 34 to 71 of total revenues. In general, state transfers appeared to be correlated with the company's deficit, which indicates that there is a budgetary logic behind the state transfers.
- The average reduction in state transfers was about 40 percent in 2003–6, but again CNH is an outlier, reducing only by 16 percent during the period and opening a growing gap with other mining companies. The cost of maintaining this more gradual reduction in state transfers for CNH is estimated to be around US\$35 million.

The cost of delaying restructuring of CNH Petrosani is estimated to be on the order of US\$47 million for the period 2003–6.

Policy Recommendations

This note makes the following policy recommendations, most of which have already been adopted by the MCESER loan:

- *Scale up job creation.* The MCSMP achieved its target of 10,000 jobs, but the cumulative impact on the mining regions will be modest, since total layoffs of mining sector workers are already 120,000, with at least an equal number affected in secondary industries. The new loan (MCESER) is designed to create 25,000 jobs directly, and to support community capacity building and local development activities for socioeconomic regeneration.
- *Broaden the target group to include those affected by second-order effects.* Laid-off miners are not the only people affected by mining sector restructuring, nor are they the worst off.
- *Initiate targeted activities to overcome gender disadvantages, or adapt procedures to ensure equality of opportunity for women.* Without deliberate targeting, women will not be able to adequately overcome the obstacles in their way. The burden on women will be addressed through preferential access to social development schemes.
- *Initiate complementary measures for regional development to improve program impact.* Regional development will require complementary efforts from local government, local communities, and sectoral agencies. Improvements in municipal infrastructure are essential to create an enabling environment for socioeconomic regeneration. The Romanian government should ensure the complete devolution of administrative and financial responsibility for managing local infrastructure and services from mining companies to local authorities. It also should mobilize external resources for local authorities to use to improve local infrastructure.
- *Mobilize various institutional actors for regional development.* The Ministry of Economy and Commerce should ensure broad ownership and support for sector restructuring and expedite the restructuring of AZM, aligning

the jurisdiction of AZM's regional offices with the boundaries of regional development agencies, as previously proposed elsewhere. AZM should mobilize partner organizations and local communities for specialized services in which they have a comparative advantage. The Romanian government will need to clarify respective roles and responsibilities for these institutional arrangements and earmark and track dedicated resource flows.

- *Invest in community capacity building,* to help tailor programs to the local context within mining localities and ensure adequate mobilization of women.
- *Establish a rigorous, transparent mechanism to monitor nominal and implicit budget subsidies.* The government must establish a transparent system of subsidy monitoring that tracks real transfers—both nominal and implicit subsidies—at the sectoral and company level. The government should draw on the evidence from the subsidy analysis to select downsizing targets, making adjustments as necessary to ensure that the program is meeting the subsidy phase out envisaged under the mining strategy. Subsidy monitoring data should be widely disseminated to build support for more equitable, transparent restructuring of the mining sector.

This note was prepared as a summary of World Bank Report Number 32772-RO written by Anis Dani (World Bank, SDV), Limin Wang (World Bank, PRMPR), Marc-Olivier Rubin (World Bank, SDV), Dumitru Sandu (University of Bucharest), and Radu Iacob (Romanian Ministry of Economy and Commerce). Additional copies can also be requested via e-mail: socialdevelopment@worldbank.org

Table 1: Welfare Impact of Mining Sector Downsizing across Stakeholders

Stakeholder	Probability of a drop in purchasing power (1997-2001)	Monthly household income_pc	Monthly food expenditure pc	Deterioration in access to medical services (1997- 2001)	HH with low_edu	Illness	Poor health	Own Land	N
	%	('000 ROL)	('000 ROL)	%	%	%	%	%	
Miners SOE	20	1469	584	49	14	9	9	28	229
non-miners	25	951	454	42	19	14	13	39	77
Private sector	42	981	462	44	22	7	10	29	103
retired miners	43	1053	542	53	48	40	39	38	148
retired other	39	1040	565	49	49	49	45	53	105
Laid-off miners	73	482	302	55	34	15	18	27	144
Other unemployed	58	591	318	38	29	20	26	31	34
Housewife	49	680	373	54	61	21	32	27	148
Other	37	985	465	49	26	16	17	33	243
Total	40	979	469	49	33	20	22	33	1231

Note: The probability of a drop in purchasing power and deterioration in access to medical services are for the period between 1997 and 2001. Estimation results are presented in Table 1, Annex 2.

Table 2: Social Impact on Women

	2001		2002		2003		2004	
	Male	Female	Male	Female	Male	Female	Male	Female
Re-employment probability %	39	12	46	21	43	27	na	na
A drop in living standards (now vs before 1997)	40	41	47	47	45	46	41	43
Access to medical care (worse than before 1997)	49	49	42	39	45	48	32	33