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**THE ENTERPRISE ISOLATION  
PROGRAMME IN ROMANIA**

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***TRANSITION ECONOMICS***



**Centre for Economic Policy Research**

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## **ABSTRACT**

### **The Enterprise Isolation Programme in Romania\***

We provide comprehensive analysis of the isolation program for financially distressed firms in Romania. The results indicate that the isolation program did not deliver any tangible improvements in operational performance, nor did it enhance the process of privatization or liquidation of large loss-making enterprises. Firms included in the program faced softer budget constraints than their comparators outside the program, and few management changes in poorly performing firms took place. These findings question the feasibility of creating successful programs for enterprise restructuring under government auspices.

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## **NON-TECHNICAL SUMMARY**

The transition to market has changed fundamentally the relationship between firms and the state in former centrally-planned economies. In the countries that pursued rapid privatization, the dependence of firms on the state budget has been eliminated. The reform of the banking system has hardened budget constraints on managers who previously enjoyed a close co-operation with their creditors. Governments that have pursued reforms less rigorously, however, financed the losses of many large state-owned enterprises. This results in fiscal instability, as evidenced in the 1996 banking sector collapse in Bulgaria. What should governments do to alleviate the drain on the state budget? Can this be handled through the nascent court bankruptcy system? Is it necessary to create special programmes targeted at the largest loss-makers? Given the large number of loss-making enterprises in transition economies no previous comparable experience exists to provide guidelines for state involvement.

Over the last six years several governments in transition economies have implemented isolation programmes for large loss-making state-owned enterprises. Isolation programmes combine features of reorganization under bankruptcy as developed in industrialized countries, with severance payments for employees and labour deployment assistance. This paper provides empirical evidence on the results of the Romanian isolation programme. We choose to study the Romanian programme since it had the widest coverage. We have financial statements for all firms included in the programme, as well as extensive case-study materials prepared by foreign consultants. The results indicate that the isolation programme did not deliver any tangible improvements in operational performance, nor did it enhance the process of privatization or liquidation of large loss-making enterprises. We also show that firms included in the programme faced softer budget constraints than their comparators outside the programme through access to special funds and continued government subsidies. Very few management changes took place in isolated firms. These findings question the feasibility of creating successful programmes for enterprise restructuring under government auspices.

## **The Enterprise Isolation Program in Romania**

### **1. Introduction**

The transition to market has changed fundamentally the relationship between firms and the state in former centrally-planned economies. In the countries that pursued rapid privatization, the dependence of firms on the state budget has been eliminated (Schaffer, 1998). The reform of the banking system has hardened budget constraints on managers who previously enjoyed a close co-operation with their creditors. Governments that have pursued reforms less rigorously, however, financed the losses of many large state-owned enterprises. This results in fiscal instability, as evidenced in the 1996 banking sector collapse in Bulgaria. What should governments do to alleviate the drain on the state budget? Can this be handled through the nascent court bankruptcy system? Is it necessary to create special programs targeted at the largest loss-makers? Given the large number of loss-making enterprises in transition economies, no previous comparable experience exists to provide guidelines for state involvement.

Over the last six years, several governments in transition economies have implemented isolation programs for large loss-making state-owned enterprises (Djankov and Ilayperuma, 1997). Isolation programs combine features of reorganization under bankruptcy as developed in industrialized countries, with severance payments for employees and labor deployment assistance.<sup>2</sup> This paper provides empirical evidence on the results of the Romanian isolation program. We choose to study the Romanian program since it had the widest coverage. We have financial statements for all firms included in the program, as well as extensive case-study materials prepared by foreign consultants. The results indicate that the isolation program did not deliver any tangible improvements in operational performance, nor did it enhance the process of privatization or liquidation of large loss-making enterprises. We also show that

firms included in the program faced softer budget constraints than their comparators outside the program through access to special funds and continued government subsidies. Very few management changes took place in isolated firms. These findings question the feasibility of creating successful programs for enterprise restructuring under government auspices.

The rest of the paper is organized as follows. Section 2 details the objectives and components of the programs implemented in seven transition economies. Section 3 summarizes the Romanian program. Section 4 describes the data and provides descriptive statistics. Section 5 employs regression analysis to study the effect of the isolation program. Section 6 concludes.

## **2. Isolation Programs in Transition Economies**

The rationale for isolation programs in transition economies is based on the belief that the emerging bankruptcy system cannot handle the large number of loss-makers expediently enough to prevent a drain on the state budget and an associated collapse of the banking sector.<sup>3</sup> The enterprises that need to be closed are too numerous, and the bankruptcy decisions are too socially sensitive and politically charged. Countries in which isolation programs were not put in place, e.g., the Czech Republic, Estonia, Slovakia, and Slovenia, arguably had good institutional environment, had privatized quickly, and had more stable banking systems. Hungary had an isolation program in 1992-93, although it included only a dozen firms (Gray et al., 1996). The Polish bank and enterprise restructuring program also had an isolation component in that banks were prevented from lending to a list of firms identified by the Ministry of Finance (Gray and Holle, 1997).

Four additional reasons make isolation programs attractive. First, transition economies inherited an industrial structure characterized by large firms that frequently employ all of a town's working population and provide many social services, e.g., heating, schools, hospitals. Closing such firms would leave

employees with few outside options and might cause political upheaval. Second, more transparency in financing loss-makers is achieved, even if firms are still supported through state funds, and this may lead to more pressure for restructuring over time. Third, downsizing is made easier if all social services are placed in the hands of the state and severance pay for workers is provided. Finally, isolation programs may set an example for other firms to indicate that restructuring is imminent and necessary.

More generally, isolation programs are aimed at alleviating the risks of continued soft budget constraints through direct subsidies by the government, the use of tax arrears, and loans from state-owned banks (Schaffer, 1998). According to Kornai (1998), the theory of soft budget constraints is a theory of lack of exit due to vertical relationships between superiors and subordinates, where the state finances enterprises that generate negative value-added so as to prevent their closure and the associated loss of jobs. The elimination of subsidies and other indirect mechanisms of budget transfers to ailing enterprises severs the link between politicians and firms and allows unhealthy enterprises to close (Shleifer and Vishny, 1994). The literature identifies several indicators as proxies for hardened budget constraints. These include an increase in enterprise closures through bankruptcy or liquidation, a faster rate of labor shedding in financially distressed enterprises, reduced direct and indirect subsidies by the government or other state-controlled entities, e.g., banks and suppliers. The ultimate manifestation of hardened budget constraints is the increased profitability of the enterprise sector, as companies with poor performance exit and companies with superior performance get access to more financing.

Isolation programs were implemented in seven transition economies, i.e., Albania, Armenia, Bulgaria, Kazakstan, the Kyrgyz Republic, Macedonia, and Romania. The programs were designed to cover large loss-making state-owned enterprises. While there were some variations across countries in the number of firms and their selection, all programs had similar objectives. First, the program would force managers of firms to reduce operational losses to the point where these firms would generate a positive

cash flow. Second, the program would ensure that firms' losses were not financed through building up arrears to banks, to suppliers, to the state budget, and to the social security fund. Third, transparency in government policy would be introduced by forcing explicit decisions on budgetary support for loss-making enterprises and by fostering policies designed to minimize the social impact of reorganization. Fourth, the program would place the responsibility of restoring financial discipline with the state through its restructuring agency. Fifth, the implementation of such a program would send a signal to other state-owned firms that the imposition of hard budget constraints was closely monitored and there would be penalties for failure to pursue reorganization.

An additional feature of the programs was the establishment of a monitoring unit that tracked the financial and operational performance of each firm on a monthly basis. The unit could be part of the newly created agencies for restructuring, as in Romania, Albania, Armenia, the Kyrgyz Republic, or be based in the Ministry of Finance, as in Bulgaria, Macedonia, and Kazakhstan. The isolation programs were time-constrained, designed to last for two to four years. This prevented their institutionalization by ensuring that they would not become state-run ministries that carried out industrial strategies.

### **3. Description of the Romanian Program**

In 1992, the Romanian government required a group of loss-making firms with heavy debt burdens to design diagnostic reports of their financial situation and operational performance.<sup>4</sup> The Agency for Restructuring (AR) was founded in the following year with the principal task of reorganizing troubled firms that would be sheltered from their creditors and receive technical as well as financial assistance in restructuring their business. The structure included not only the AR, which was under the Council for Coordination, Strategy and Economic Reform, but also the State Ownership Fund, and the branch

ministries responsible for utility firms. In March 1993, about 300 loss makers, which accounted for 70% of total enterprise losses, were targeted.

Under union and other pressure, however, the government dropped many firms off the list. Only 73 firms remained in the final list as of April 1994. In November 1994, 74 agricultural farms from the initial list were added back to the program. The total number of firms chosen for isolation in 1993 increased to 147. While the AR had control over most commercial companies and agricultural farms, the State Ownership Fund was given control over 31 commercial companies, while nine utilities in the power, transport, and gas sectors were controlled by the respective branch ministries. The latter agency was deemed necessary as utility companies could not be privatized or liquidated by law and their employees enjoyed special status.

The selection resulted in having only 4 of the largest 10 loss-makers, defined as having the largest absolute operating losses in local currency, 46 of the largest 100 loss-makers, and 82 of the largest 300 loss-makers among the state-owned enterprises under isolation (Tardy, 1997). The program was thus deficient from the beginning as it failed to cover many of the worst firms that were beneficiaries of state funds.

While under isolation, arrears on wages are only paid when firms have generated internally cash to pay its employees. Once firms negotiate conciliation agreements, they may have some of their debt written off, rescheduled, or swapped for equity. If a firm has not achieved positive cash flow by the end of the isolation exercise, it should be liquidated or privatized. To alleviate the pressure from the shedding of labor, most programs offered severance packages for workers. Managers could use this source to provide up to twelve months of wages to employees who would leave voluntarily. The money could also be used for re-training and relocation of workers. Outside of the program, any firm that was failing should go

through the court bankruptcy procedures. The burden to take such firms to court would be on their creditors and not on the government.<sup>5</sup>

All firms in the reorganization program were required to design financial recovery plans with technical assistance provided by foreign consultants. Recovery plans focused on short term steps to reduce expenses. The format included a proposed restructuring strategy and the expected financial impact of each action as well as detailed profit forecasts. Firms should be able to recover operating finances through simple cash management, i.e., tracing where the money was lost and who owed them money, and collecting these receivables diligently.

The financial plans had limited success. Managers were reluctant to take measures unpopular with the workers because they were either elected directly by workers, or else their appointment was approved by the union. An additional weakness was the lack of managerial knowledge. Managers were unable to assess their firms' financial status because no attention was paid to such details in their previous work. When assessing profits, they treated subsidies and production for inventories as revenues. At the opposite end, when a firm produced goods for its own consumption, they were not counted as revenues. Not surprisingly, only five of the initial 73 firms suggested measures to cut back production. The remaining 68 charted expansionary strategies based on investment and entry into new markets, even though demand for their products was rapidly falling.

The State Ownership Fund was allowed to lend money to enterprises under isolation through a special Structural Fund. The Structural Fund was set up to finance operating subsidies allocated by the government, working capital to meet export orders, and redundancy payments to employees. In theory, the Fund allowed for transparent allocation of public money to loss-making firms. Any infringement on the rules would result in the dismissal of the management team. The Romanian Enterprise Restructuring Ordinance, for example, stated that failure to observe measures stipulated by the programs for

restructuring and financial rehabilitation within the period established, results in the revocation of manager and the replacement of the Administration Council members in the case of state companies and in the revocation of managers in case of the commercial companies. Redundancy payments were equal to 6 months of pay. This made it easier to downsize the labor force. For firms that were too politically important to be shut down, this fund also helped pay their utility bills in a transparent way. It introduced, however, a softer budget constraint. Firms under isolation gained access to extra funds, not available to enterprises outside the program.

At the time of closing the program, February 1997, only four firms had graduated. Two of them were privatized in 1996, while another two were liquidated. Another 13 enterprises from the program were closed down by the new government in August, 1997. This closure was not related to the isolation program, as some companies that were not on the isolation list were also closed. The program did not have a significant impact on managerial turnover. During the implementation of the program only 7 of 147 CEOs were fired.<sup>6</sup> Although these outcomes were hardly what the architects of the isolation program had in mind, perhaps the program was effective in operational turn-around and eliminating the dependency of isolated firms on the state budget. We consider the empirical evidence in the following sections.

#### **4. The Data**

We have individual enterprise data consisting of balance sheet and profit and loss statements for 1992 through 1996 obtained from the Romanian Statistical Office. The data are end-year observations and cover all firms that were registered as state-owned enterprises in 1992. If some plants are owned by the same parent company, this relationship is accounted for in the data. Overall, more than 2,218 medium and large enterprises are included, although only 1,259 of them report consistently in each year of the

sample. From those, we select two groups of firms. The first group contains 146 firms from the isolation program, identified by firm numbers, although one utility company was excluded from the study for lack of accounting data. The control group contains the remaining 1,113 firms.

Firms come from nine sectors (Table 1). The large share of agricultural firms is due to the inclusion of pig and poultry farms in the isolation program. Although numerous, these firms account for only 5 percent of overall employment and 14.8 percent of sales in the isolated group. The largest isolated firms, in terms of both employment and sales revenue, are to be found in the coal mining and utility sectors. Together, these two sectors account for more than half of total employment and a third of sales revenue in the isolated group. Agricultural firms account for around 60 percent of firms in the control group, although they have only 16.8 percent of employment and 7.6 percent of sales revenue. As in the isolated group, the two sectors that account for the largest share of employment and sales revenue are coal mining and utilities. Overall, the relative distribution of firms, employment, and sales is very similar between the isolated and control groups, as the percentage columns in Table 1 show.

[Table 1 here]

International accounting standards were not introduced in Romania during the sample period. This is not a problem in the analysis here because it compares relative performance across groups of firms in the same year or period. Several adjustments were made, however. For example, under the Romanian accounting system subsidies and production for inventories are counted as sales. Since data on sales, subsidies, and inventory changes are reported in all cases, we recalculate the revenue numbers to account for sold, rather than produced, output. Firm-specific output prices are not available. One option is to use output price indices at the industry level. This, however, limits the comparisons between firms within the same sector, due to the likely variation in their pricing strategies. Hence, we develop the analysis on the

basis of ratios of revenues and financing to avoid the need for inflation-accounting, i.e., we use nominal data in both the numerator and denominator.

As indicators of enterprise restructuring, we choose improvements in profitability, labor shedding, and reductions in subsidies relative to sales revenue. All three track the hardening of the budget constraints of Romanian enterprises and are consistent with the theoretical literature outlined in Section 2. We use as benchmark years 1993, which is the year of initial selection of enterprises into the isolation program, and 1996, which is the last accounting data available before the dissolution of the program in February 1997. Table 2 presents means, medians and t-tests of the three variables in the isolated and control groups.<sup>7</sup> The t-tests provide some initial evidence of the effects of the isolation programs, as they show the relative changes in performance both within each group of firms and between the two groups. Isolated enterprises show rapid deterioration in operational profitability, defined as sales minus wages minus materials expenses over sales, between 1993 and 1996, with the average falling from  $-0.062$  to  $-0.358$ . The t-statistic (3.485) shows that this decline is statistically significant at the 1 percent level. Average employment among isolated enterprises falls from 10,934 workers to 9,857 workers in the same period. The difference is again highly statistically significant, with a t-statistics of 7.211. Finally, the share of subsidies to sales actually increased from 0.061 to 0.077, although this change is not statistically significant.

[Table 2 here]

We also consider the changes in the control group. Average profitability fell significantly at the one percent level, with a t-statistic of 3.526, from 0.069 to 0.008 between 1993 and 1996. Average employment also experienced a steep decline falling from 1,449 workers to 1,131 workers. The share of subsidies in sales was insignificant in both 1993 and 1996.

Next we study the differences in the three indicators between the two groups of firms in 1993 in the second-to-the-last column of Table 2. The t-statistics show that isolated firms had lower profitability, higher employment, and received more subsidies than firms in the control group. All differences are significant at the five percent level; the difference in employment is also significant at the one percent level. We report the same set of statistics for 1996. The increased magnitude of the t-statistics suggests that isolated enterprises became increasingly less profitable, shed less labor, and received increasingly more subsidies than other firms in 1996, when compared with 1993. The relative decline in profitability in isolated enterprises may be regarded as an indication of the successful selection of firms into the program, i.e., firms that were more likely to experience difficulties during the transition period were isolated. This hypothesis is, however, not supported by the simultaneous increase in subsidies and the slower pace of labor shedding in such enterprises. The latter two indicators imply that the isolation program may have provided a shelter for distressed enterprises in which continued soft financing was used to limit the extent of lay-offs.

## **5. Further Empirical Evidence**

The description of the Romanian isolation programs in Section 3 suggests that it was adopted with three specific objectives in mind. In particular, the program was expected to bring reduced operational losses to the isolated firms, reductions in excess employment, and a reduction in government funds allocated to loss-making enterprises. In this section, we test to see if these objectives were achieved. The enterprise-level data allow us to test whether the performance of firms changed after their inclusion in the program. If significant changes in the behavior of firms under isolation did take place, we expect to see improved performance both over time and as compared to the control group of firms that did not participate in the program.

We perform OLS estimations using the full sample of Romanian enterprises. An isolation dummy, which equals 1 if an enterprise is in the program and 0 otherwise, is included along with dummies for sector of origin and a variable for firm size, which is proxied by total assets in 1992. The results are consistent with our earlier findings. The coefficient on the isolation dummy in the profitability regressions (Table 3) turns from insignificant in 1993, the year of initial selection into the program, to highly significant in 1994 through 1996, this coefficient has the hypothesized negative sign in all years, and its magnitude is generally increasing over time, with steep increases in 1994 (to -0.315) and 1996 (to -0.422). As discussed earlier, one explanation may be the endogeneity of selections into the program, i.e., poorly performing firms were chosen. However, this does not fully explain why isolated firms continued to perform poorly after their inclusion in the isolation exercise. This claim would be weakened further if we find that isolated firms had lower-than-average labor shedding and received more subsidies.

The control variables in Table 3 exhibit some interesting dynamics. Sector dummies are generally insignificant in explaining profitability. The exceptions are the machinery and equipment, and road transport sectors in which profitability increases over time starting in 1993. The coefficients are statistically significant at the five percent level in the 1994 through 1996 period. Size is also an important variable in explaining profitability. Larger firms are more likely to have higher profitability, even though the magnitude of such profitability differences is small.

[Table 3 here]

We run identical regressions on labor shedding using log-differences in employment as my dependent variable and subsidies as a share of total revenues (Table 4). Controlling for relative size and sector of origin, isolated firms shed 8.6% less labor in 1993-94, 9.4% less labor in 1994-95, and 8.7% less labor in 1995-96. Isolated firms also received, on average, 5.8 percentage points higher subsidies as a share of total revenues than firms in the control group. The coefficients are highly statistically significant

in all cases. These findings lend further credence to the argument that the isolation program did not achieve its goals.

[Table 4 here]

## **6. Conclusions**

By analyzing the relative performance of firms selected into the Romanian isolation program, we conclude that none of the intentions of the isolation program were fulfilled. Worse still, the program may have delayed restructuring by not imposing hardened budget constraint on loss-making enterprises and not forcing manager replacements. The difficulties that the isolation program faced were due to both the selection of enterprises into the program and subsequent program implementation. Loss makers were not selected on objective criteria and the agency in charge was not sheltered from political pressure in enforcing hardened budget constraints.

The evidence in this paper questions the feasibility of designing restructuring programs in which government agencies can decide on the scope of activity and selection of enterprises. This conclusion is supportive of the insistence of international donor organizations that governments in transition economies privatize rapidly and set in place a functioning bankruptcy system, rather than attempting to restructure enterprises prior to privatization.

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**Table 1: Sample Statistics, 1993**

SECTOR	Isolated Enterprises						Control Group					
	Firms		Employment		Sales Revenues*		Firms		Employment		Sales Revenues*	
	Number	%	Number	%	Value	%	Number	%	Number	%	Value	%
Agriculture	70	47.9	38,347	5.0	1,145	14.8	655	58.9	275,028	16.8	1,073	7.6
Coal and Petroleum	5	3.4	138,285	18.1	556	7.2	20	1.8	200,996	12.3	2,867	20.3
Food and Beverage	4	2.7	3,699	0.5	16	0.2	195	17.5	183,044	11.2	1,105	7.8
Non-metallic Products	14	9.6	57,618	7.5	1,364	17.6	43	3.9	107,549	6.6	1,253	8.9
Chemicals	12	8.2	38,811	5.1	392	5.1	30	2.7	90,448	5.5	968	6.8
Metallurgy	12	8.2	84,315	11.0	408	5.3	40	3.6	165,477	10.1	1,562	11.1
Machines and Equipment	19	13.0	82,330	10.8	1,768	22.8	84	7.5	220,035	13.4	732	5.2
Road Transport	6	4.1	40,669	5.3	268	3.5	8	0.7	60,638	3.7	2,084	14.7
Utilities	4	2.7	281,327	36.7	1,842	23.7	38	3.4	335,294	20.5	2,491	17.6
All	146	100.0	765,401	100.0	7,759	100.0	1,113	100.0	1,638,509	100.0	14,135	100.0

\* In billion Romanian lei.

**Table 2: Comparison of Restructuring Indicators  
(Mean and Median)**

Indicator	Isolated Enterprises			Control group			Between t-test	
	1993	1996	t-test	1993	1996	t-test	1993	1996
Profitability	-0.062	-0.358	3.485**	0.069	0.008	3.526**	-2.373*	-5.537**
	-0.018	-0.117		0.052	-0.003			
Employment	10934	9857	7.211**	1449	1131	15.293**	8.892**	9.856**
	1985	1459		420	258			
Subsidies to Sales Ratio	0.061	0.077	-0.418	0.001	0.000	0.178	2.328*	2.667**
	0.002	0.001		0.000	0.000			

Notes:

1. The Subsidies to Sales Ratio excludes structural funds for isolated enterprises.
2. \* and \*\* denote statistical significance at the 5 and 1 percent level, respectively.

**Table 3: Regression Results on Profitability**  
(OLS Estimation)

Explanatory variable	1993	1994	1995	1996
Isolation Dummy	-0.056* (2.021)	-0.315** (6.024)	-0.296** (5.224)	-0.422** (7.184)
Coal and Petroleum	-0.117** (3.924)	0.008 (0.112)	-0.044 (0.705)	-0.049 (0.784)
Food and Beverage	0.071 (1.115)	0.208 (1.718)	0.103 (0.748)	0.142 (1.085)
Non-Metallic Products	-0.037 (0.997)	-0.001 (0.125)	-0.029 (0.435)	-0.014 (0.208)
Chemicals	-0.014 (0.526)	0.099 (1.348)	0.108 (1.584)	0.128 (1.995)
Metallurgy	0.006 (0.185)	0.233** (2.971)	0.135 (0.894)	0.153 (1.025)
Machinery and Equipment	0.039 (1.182)	0.188* (2.063)	0.172* (2.174)	0.194* (2.407)
Road Transport	-0.017 (0.528)	0.224** (3.134)	0.196** (3.142)	0.178** (2.964)
Utilities	0.123** (2.714)	0.143 (1.254)	0.164 (1.683)	0.167 (1.735)
Size	0.005** (2.584)	0.008** (3.497)	0.015** (3.692)	0.009* (2.128)
Number of Observations	1,259	1,259	1,259	1,259
Adjusted R <sup>2</sup>	0.035	0.048	0.031	0.052

Notes:

1. The numeraire sector is agriculture.
2. All standard errors are heteroskedasticity-consistent.
3. A constant term is included in all regressions, but not reported.
4. Absolute values of the t-statistics are in parentheses.
5. \* and \*\* denote significance at the 5 and 1 percent level, respectively.

**Table 4: Further Regression Results**  
(OLS Estimation)

**A. Labor Shedding**

Explanatory variable	1993-1994	1994-1995	1995-1996
Isolation Dummy	-0.086** (4.658)	-0.094** (3.857)	-0.087** (4.026)
Sector Dummies Included	Yes	Yes	Yes
Size	0.023** (6.251)	0.029** (4.208)	0.018** (4.968)
Number of Observations	1,259	1,259	1,259
Adjusted R <sup>2</sup>	0.124	0.127	0.131

**B. Subsidies**

Explanatory variable	1993	1994	1995	1996
Isolation Dummy	0.047** (8.624)	0.053** (7.824)	0.067** (9.632)	0.071** (10.254)
Sector Dummies Included	Yes	Yes	Yes	Yes
Size	0.009 (1.824)	0.011* (2.041)	0.012* (2.315)	0.015* (2.411)
Number of Observations	1,259	1,259	1,259	1,259
Adjusted R <sup>2</sup>	0.162	0.151	0.172	0.169

Notes:

1. The numeraire sector is agriculture.
2. All standard errors are heteroskedasticity-consistent.
3. A constant term is included in all regressions, but not reported.
4. Absolute values of the t-statistics are in parentheses.
5. \* and \*\* denote significance at the 5 and 1 percent level, respectively.

## Footnotes

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<sup>1</sup> Forthcoming, *Journal of Comparative Economics*, June 1999. I am grateful to Jonin Bonin (the editor), Stijn Claessens, John Nellis, and two anonymous referees for helpful suggestions, and Kosali Ilayperuma and Ying Lin for excellent research assistance. The views expressed are personal and should not be attributed to the World Bank.

<sup>2</sup> The two differ significantly, however, in that isolation programs also aim at changing the ownership of surviving firms through privatization. In this respect the only precedent for the isolation programs is the East German Treuhandanstalt, which existed between 1990 and 1995 and had as its principal task privatizing or liquidating over 8,000 state-owned firms, including two hundred large loss-makers. For evidence on the Treuhandanstalt, see Carlin and Mayer (1992) and Dyck (1997).

<sup>3</sup> Two recent studies analyze the evidence on bankruptcy outcomes in transition economies. Gray and Holle (1997) argue that the Polish bankruptcy law has several deficiencies. First, only firms that have sufficient assets to cover procedural costs can have their reorganization plans confirmed. This creates a loophole for managers, if the firm shows negative net assets, it is automatically excluded. Second, the order of claimants' preferences reduces the incentive for bank creditors to initiate bankruptcy since the first claimant is the government, the second the employees; it is only when their claims are satisfied that other parties can partake in the distribution of assets. Finally, creditors who initiate the bankruptcy procedure are asked to pay up to 13% of the value of their claims as advance payment of court fees. For the 23 bankruptcy cases covered by the study, creditors recovered only between 7% to 17% of their claims. The procedure also lasted 41 months on average. Gray et al (1996) study the Hungarian bankruptcy experience. They conclude that the bankruptcy procedures did little to enhance deep restructuring or the exit of ailing firms. Of the fifty firms slated for liquidation, only one was closed down within two years after the initiation of liquidation.

<sup>4</sup> Originally the debt criterion for selecting enterprises in the isolation program was that their operational income was less than half of the falling interest payments. That criterion was not uniformly applied, however, especially among the agricultural enterprises that joined the program in 1994.

<sup>5</sup> The Romanian bankruptcy law (1995) is fashioned after the German law and is creditor-friendly. Banks and the state may take a firm to court if payments have been in arrears for a specified length of time. Once the firm files for bankruptcy, an outside trustee is appointed to make decisions, including whether to reorganize or liquidate. Sanctions for delay in filing are imposed.

<sup>6</sup> This outcome is similar to the one reported in Lopez-de-Silanes (1997) for a sample of large Mexican firms that underwent restructuring before privatization. The study finds that only 19% of company managers were replaced by the restructuring agency and that the two-year period of restructuring resulted in a net loss in privatization prices of 71 cent on each dollar of assets.

<sup>7</sup> For industry-by-industry comparisons, see Djankov and Ilayperuma (1997).