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**Social Costs
of Economic
Transformation
in Central Europe**

IN THE SHADOW ECONOMY

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IN THE SHADOW ECONOMY
The informal economy and survival strategies of
the unemployed during the Romanian transition

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2000

ABSTRACT

This study has three broad aims: (i) to describe the overall strategies of the unemployed in the Romanian transitional economy, and offer a few predictors for each strategy, (ii) to test the extent to which the informal labor market represent an alternative for these people, and (iii) to provide an evaluation of the dimension of the informal economic sector in Romania, as far as the “gray labor” component is involved.

The sources of data we used are diverse: our own survey on the unemployed population in two different regions of Romania (Bucharest, with low unemployment, and Piatra Neamt, a provincial town in an economically depressed region, with high unemployment); the results of the Romanian Barometer of Opinion; and various cross-country assessments of the informal economic sector. We conclude that working in the gray sector is only in small measure a matter of choice for the unemployed, at least in regions like Neamt, where few alternatives exist even for the relatively young, skilled and entrepreneurial people. While in Bucharest the job market is tight and unemployment largely voluntary (or even benefit-induced), in Piatra Neamt around 30% of it is recession-induced and comprises people who are more dynamic and flexible than the business environment - small wonder then that they work underground. An overall estimate of the hidden GDP due to the economic activity of the unemployed yields the result of 2% in Bucharest and 6-10% in Piatra Neamt. However, at this point we cannot estimate the size of two other important components of the informal economy: the black market (purely criminal activities) and the unreported activities of those agents who do not use unemployed labor. The study concludes with policy recommendations.

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1. Analytical approach

The last decade has witnessed an increase in research on informal economic activity, both in developing or transitional economies (de Soto 1989; Johnson, Kaufman & Schleifer 1998) and in industrialized countries (Dangler 1994; Marcelli 1999). Recent work has only partly supported the dominant neoclassical economic view that the informal economy (henceforth IE) offers a solution to unemployment and poverty. As de Soto (1989:185) put it, “the choice between working formally and informally is not the inevitable result of people’s individual traits but, rather, of their rational evaluation of the relative costs and benefits of entering existing legal systems.” Sociologists in the structuralist tradition however have denied that informality is *exogenous* to the labor market, and a by-product of extra-economic state regulations, claiming instead that it is a by-product of firms’ constantly seeking to restructure production and lower costs, and is therefore *endogenous* to the labor market. Opinions are split concerning the unicity or duality of the labor market (Borjas 1990; de Freitas 1991; Gordon, Edwards and Reich 1982). The neo-institutionalist approach assumes that informal employment is part of the non-primary labor market, and therefore a complement to the formal one. The existence of informal workers is not seen in this approach to have a negative impact on the primary sector; on the contrary, it may benefit formal workers and firms by performing necessary but less desirable tasks at a lower cost and without an official work contract (Marcelli 1999).

Concerning transitional economies of what was formerly known as the “second world,” we can again distinguish two opposing views. One claims that the growth of the official economy is hindered by the informal economy, emphasizing the negative social capital of mafia-like economic activity and large-scale tax evasion. This argument is mostly put forward in analyses of the Russian economy. The opposing view claims that it is the poor performance of the government that pushes entrepreneurs outside the formal sector, in search of the best combination of taxes and public goods (Johnson, Kaufman and Shleifer 1998).

In this study, the informal economy is understood as the economic activity that is not reported to the statistical office, although it should be according to law. In the following we plan to:

- i. Describe the overall strategies of the unemployed in the Romanian transitional economy, and offer a few predictors for each strategy;
- ii. Examine the extent to which the IE is an alternative in the labor market; and
- iii. Provide collateral data for an evaluation of the dimension of the IE in Romania (since existing data is inconsistent.)

2. Measurements of the hidden sector

Data concerning the IE are by definition difficult to obtain. Official statistics in particular capture the phenomenon only with extreme difficulty. In 1996 the Romanian National Commission of Statistics (CNS) argued that the figures submitted by the Romanian Service of Information (SRI) - which, in an unpublished report to the Parliament, put the IE at about 40% of the GDP- are strongly overestimated, in fact almost double the real figures. A report by the US Treasury issued to the Romanian press seems to support the SRI estimation rather than that of CNS (French 1999). More modest figures, close to the CNS estimation of around 20%, however, were obtained from the Johnson, Kaufman & Schleifer (1998) comprehensive comparative survey based on electricity consumption.

The US treasury study is the most recent, and it claims that the IE has grown significantly, compared to previous studies of earlier years. On the other hand the method employed by this study, based on monetary aggregates (the “cash-demand” approach), is considered least appropriate for transition countries, where macro figures are unreliable, the economic activity highly volatile and where a substantial part of the “white” transactions take place in cash. Moreover, the elegant monetary approach has been long known to produce the highest, most spectacular estimates of the hidden sector¹ - which explains the findings of the American team in our case.

¹ One such study concluded that the share of the hidden sector in the US economy in 1979 was almost 30%. Other studies put the figure at 33%. If true – which seems unlikely – the Romanian figure mentioned above looks rather like an underestimation (Skoka 1989).

Other methods that are less simple to apply, yield more conservative results: the “Palermo” approach, comparing reported income with the local “visible” consumption; the labor force approach which counts people, not money flows; and the survey approach (Alessandrini and Dallago 1989). These methods look at more than one factor at a time and employ many checks based on common sense – hence their apparent imprecision. In exchange, they can offer invaluable insights into the phenomena going on at the micro level. Creative combinations of these methods, adjusted to the particularities of different regions, lead to results which are widely regarded as good approximations of reality, such as Loayza’s (1996) study of Latin America, which undertook a MIMIC (Multiple Indicator-Multiple Causes) assessment. Finally, Kaufman and Kaliberda (1996) estimated the underground economy in post-communist countries by looking at variations in the total electricity consumption. This offers a rough measure of the overall economic activity. It was empirically confirmed that the GDP-to-electricity-consumption elasticity is close to one in the short run. The differences in variation of GDP and power consumed should therefore be attributed to informal economic activity.

Another possibility is to use the consultancy-type sectorial analysis based on expert evaluations. This is less likely to produce precise aggregate figures but is very good as a starting point, playing the role of a preliminary focus group in the process of designing a comprehensive survey. The sectorial analysis can indicate where to look for shadow economic activity, and it helps in ranking the economic sectors according to their affinity for informal transactions. It can also point out regional differences that should be taken into account in the design of the research. For example, in many OECD countries domestic employment and drug trafficking represent important parts of the gray and black markets respectively². By contrast, in the post-communist countries there is not very much domestic labor paid for in cash, but there is much more barter going on in the agro-food sector. Moreover, the black market is less developed in drugs or arms, while it is believed to be more active in the smuggling of highly taxed consumption goods (tobacco, alcohol, coffee, etc.) and in the collection of protection fees, especially in the former Soviet countries. But both in developed and developing countries, CEE included, certain industries such as construction or transportation are known to shelter a great deal of informal activity.

Figure 1 presents the dimension of the informal economy in a series of countries, as given in the study of Johnson, Kaufman and Shleifer (1998). Data were adjusted for comparability reasons – but, as the authors themselves suggest, they should still be taken *cum grano salis*, given the differences in methodology used: in Eastern Europe the estimations are based on electricity consumption; in Latin America on Loayza’s composite index; and in the OECD countries on the currency-demand approach. Most probably the OECD figures are slightly overestimated compared with the other two.

3. Methodology

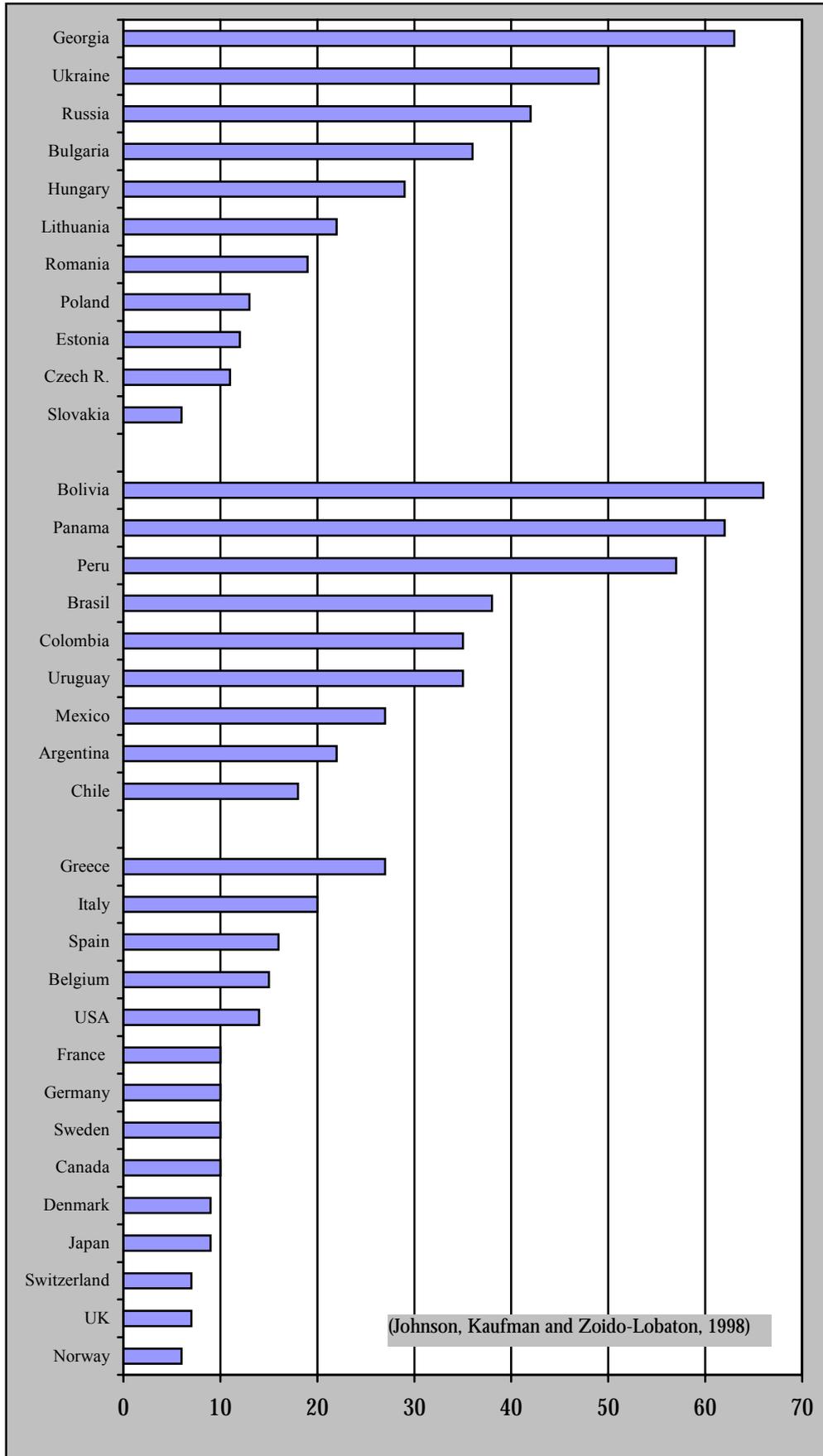
We do not attempt to propose here an alternative way of measuring the national IE. This would be far beyond the scope of this study. We are interested in the informal economy only as an alternative “survival strategy” for the unemployed. But we look nevertheless at the significance and implications of the unemployed hidden activity for the national economy.

In drawing our sample of unemployed the following considerations were applied:

1. Our intention was to capture the difference between the capital, Bucharest, which has the lowest level of unemployment (5.3% at the end of 1999) and a provincial region strongly affected by the transitional de-industrialization, with a consequent high level of unemployment (without, however, being a region too specifically tied to one industrial sector such as mining). Neamț is a county with one of the highest unemployment rates in the country, 18.5%. In 1999, according to the Romanian National Commission of Statistics (CNS 2000), Piatra Neamț, the capital of the county, Neamț recorded 10,432 unemployed out of a total population of 124,859. In Bucharest, on the other hand, we had a pool of 43,078 recorded unemployed out of a total population of 2,013,911. It was assumed that inhabitants of Bucharest have more opportunities and are able to cope better with unemployment.

² We use the common distinction between *gray* activities (legal in principle, but unreported and untaxed) and *black* ones (illegal per se).

Figure 1 Size of the informal sector, % of the official GDP: CEE, Latin America, OECD



2. Our second objective was to be able to compare our results with the data from polls with national representativeness. The sample included 200 officially recorded unemployed in Piatra Neamț and 204 unemployed recorded in the six districts of Bucharest. The poll was designed by SAR and conducted between 13-20 September 1999 by the Romanian polling institute CURS. The results were compared with CURS data from the Romanian Public Opinion Barometer (BOP 1999) measured by the same institute on the general population of Romania in October 1999.

The sample obtained was surprisingly similar to the national sample in terms of both income and attitudes. Our unemployed fare no better or worse than average Romanians; peasants and retired people obviously earn even less than the unemployed, making the two samples comparable. This relatively good situation of the unemployed is due to welfare benefits. In Romania there are two types of welfare benefits for the unemployed. During the first nine months of unemployment the individual receives aid “for unemployment and professional readjustment” (ranging from a minimum of 22% to a maximum of 55% of the national gross average income). For the next 18 months he or she receives a more modest “support” aid (60% of the unemployment aid). The sample was equally divided to include the two categories, and stratified in Bucharest to be representative of the structure of unemployment for the six quite different districts (each of which is larger than the town of Piatra Neamț).

The subjective evaluation of one’s life and of the whole country’s situation presents no statistically significant differences between our sample and the BOP one (see Appendix 1). The unemployed in our sample are the typical poor in a poor society; most of them earn below the national income average, but so do the people in the BOP sample, as the following table shows.

In order to go beyond the average income and grasp the diversity of our sample’s economic situation, we calculated the deciles of unemployed households’ incomes on the basis of the BOP general population figures, differentiating between the national and urban samples. We then calculated the percentage of unemployed households which fall in each decile.

Table 1 Comparative income of the unemployed and the general population

Average income	Bucharest	Piatra Neamț	Cummulative Bucharest-Piatra Neamț	BOP (Urban)	BOP (National)	Official national urban figures
Average household income	1.9	1.5	1.7	2.4	2.0	1.7
Average individual income	0.5	0.4	0.5	0.7	0.6	0.5

Note: All figures in million Romanian Lei

Less than 5% of our sample is included in the first decile, comprising the poorest households, which is well below the national sample. This supports our observation that the poorest individuals are not drawn from the pool of recorded and assisted unemployed, even if the level of assistance is extremely modest (the figures vary, but the support aid amounts to a maximum 35 USD per month). This support is therefore essential for preventing people from falling into the lowest category of poverty.

In the urban environment however the picture changes. The number of households in the poorest category is above the national urban level, 12.5% for Bucharest and 31.5% for Piatra Neamț. Even if they are poorer than the average urban dwellers, there is indirect evidence that the urban unemployed are better off than peasants who do not receive any form of state support. This explains the change of picture seen in shifting from the national to the urban level.

This conclusion is also supported by the number of home appliances found in the unemployed households. The unemployed have as many home appliances as the average Romanian household, scoring well on color TV-sets, washing machines and cars. The percentage of cable subscribers is also similar to the national average of 64.4%, impressively high for a population with an average income of about 100 USD per household. The cost of a cable subscription is about 3 or 4

USD/month, so the figure is telling for the life-style of Romanians. Even the poorest make a substantial contribution from their income for family entertainment.

Figure 2 Percentage of unemployed households compared with the general population national deciles (BOP)

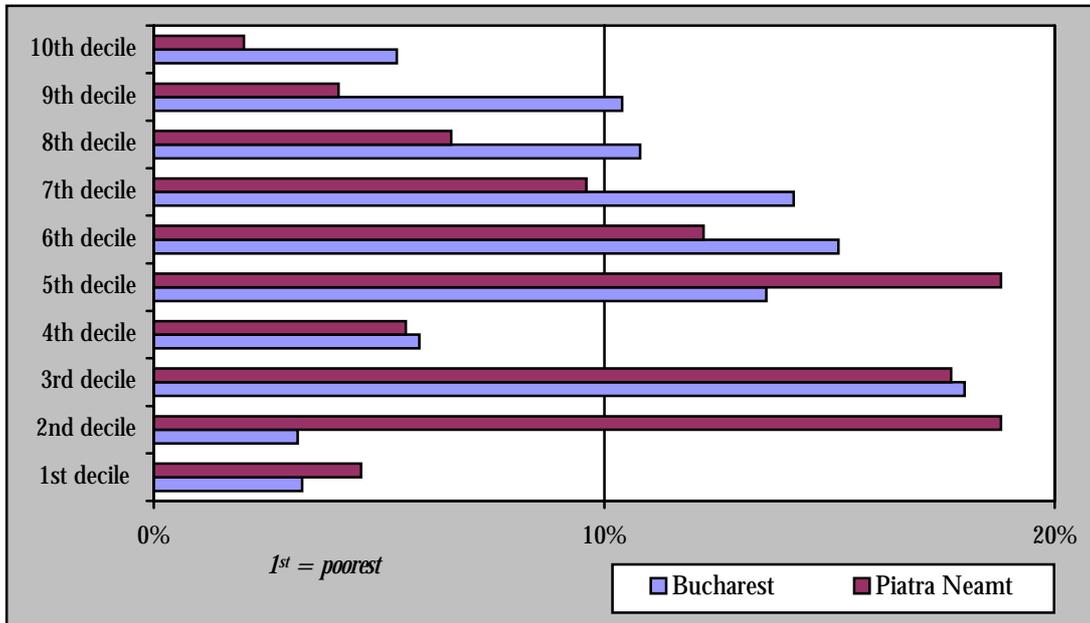
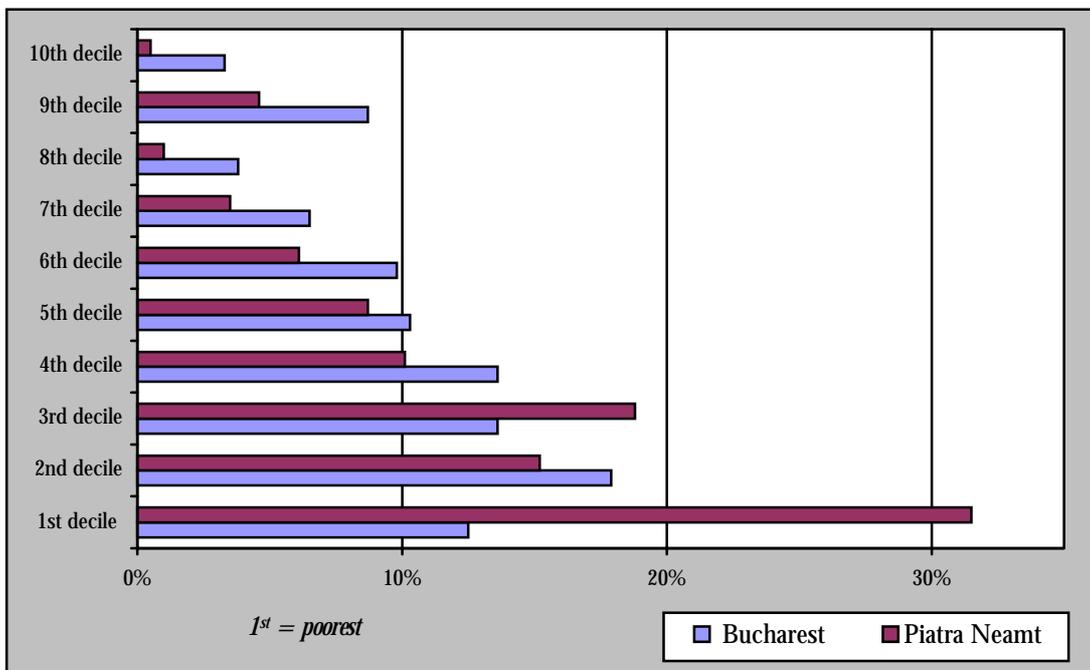


Figure 3 Unemployed households compared with the general population urban sample deciles (BOP)



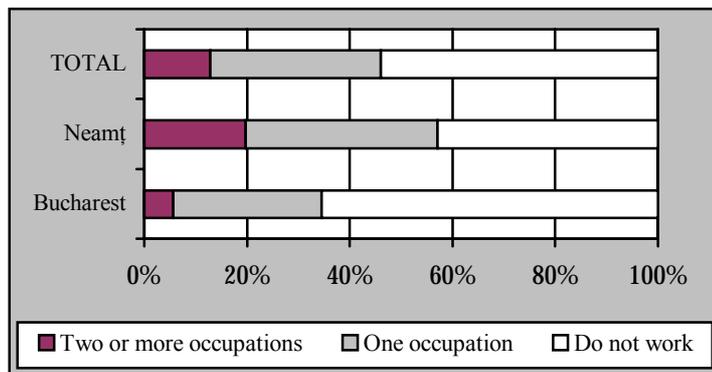
One specificity of the Romanian situation is the large number of people who benefited from the restitution of land after 1989. Before the onset of communism Romania had a large number of small landowners (strip farmers). The 1990 provisional government and the government subsequently elected on May 20, led by Petre Roman, promoted a policy of further fragmentation: land was either returned or redistributed from the former *kolhozes* to individual owners in very small plots of only 1 ha on average. It was assumed that ownership of land in the rural area plays an economic role in the survival of the urban unemployed - although not a decisive one, since 1 ha is not enough for even a childless family to live on.

4. Determinants of participation in the informal economy

A total of 45.5% of our sampled unemployed have some IE activity, of which 28% have had more than one occupation in the unofficial sector. The Piatra Neamț sample is much more active than their counterparts in Bucharest, as Figure 4 shows.

We recorded as IE participation the presence of at least one activity, even occasional, which is very likely not to be taxed, such as small trade, day labor and domestic services of all kinds (see Appendix 2). Thus only a small portion of this IE activity is self-employment and this is then direct tax evasion; most of it rather involves work without a legal contract, on a less-than-permanent basis.

Figure 4 Participation of unemployed in the informal economy



It was assumed that IE work is determined by necessity rather than choice. This implies that more motivated and active subjects with less choice (i.e. fewer resources other than their own work during the unemployment period) will engage more in IE activity regardless of their general opinion about working without a contract. However, they achieve nothing more than sheer survival. In other words, work in the informal sector, according to our model, does not necessarily drain resources off the formal economy. Due to the small sums earned in this manner it is clear that the main motivation is to make a living. It is very likely that employers could not afford to offer contracts on such limited amounts of money and work, and the unemployed could not survive if the same amount of money would be further reduced by taxation.

The dependent variable in our model is therefore the subjects' IE activity. The independent variables (predictors) we tested are:

- social structure items (age, sex, education, number of children per household, number of household members, number of people active per household, residence, ownership of land, household income, nature of income - transient or permanent, and willingness to change occupation)
- material status (constructed as factor score from the reported income and a cumulative index of home appliance ownership)
- occupational background
- number of months unemployed

- e) motivation factors (scores on INPUT or DEMAND³)
 f) resources for surviving unemployment behavior : ACTIVES or PASSIVES in looking for a new job⁴ (see Appendix 3 for personal strategies in finding work).

We tested the independent variables first in bivariate logistic models. Significant variables were then tested in a multiple logistic regression model (see Appendix 4). The final model predicts 73% of individual cases, with a R2=0,35. In the bivariate analysis, the predictors of work in the informal economy are the following:

- i. **ACTIVES.** Being more active and entrepreneurial in looking for a job increases the chances of working in the informal sector. IE jobs are an obvious alternative to those in the formal economy. Active unemployed people have tried many other possibilities to find a job: if they end up in the informal sector this is due to the lack of any acceptable alternative in the formal economy. Passives have less chances to work in the IE because they have fewer chances to work in general. The sample was, however, split over the choice between a contract job with less money (58%) and a better paid job without contract (42%), without this variable becoming a predictor. In normal life, however, people do not even have a choice: only 16.3% of the unemployed in our sample were offered a job by the Unemployment Office (OFM). People who declared their willingness to change residence in order to find a job had more chances to work in the informal sector.
- ii. **MOTIVATION.** Being high on INPUT increases the chances of working in the informal sector. More motivated people will simply search harder and do any kind of work. High expectations towards the state's role and low expectations towards one's basic life needs (high score on DEMAND) bring about less entrepreneurial behavior in finding work.
- iii. **GENDER.** Being a woman decreases the possibility of working in the IE sector. Many explanations compete here, such as the already reported little willingness of private employers to hire women, the more physical nature of occasional jobs, the fact that women are occupied more in the household.
- iv. **WILINGNESS TO CHANGE OCCUPATION; PREVIOUS OCCUPATION AND EXPERIENCE.** Individuals willing to change their occupation and learn other skills are more likely to engage in IE according to the bivariate analysis. People who worked in industry, construction, telecommunications and transport, on the other hand, are more likely to work in the informal sector than are people with a record of previous employment in education or health. This is due to the fact that education and health are still overwhelmingly in the state sector, so formal or informal private alternatives are not available. On the contrary, the private sector is drawing massively upon construction and transportation. Another factor is the very special qualification of individuals from the education and health sectors, the higher costs invested in this type of education prevents them from finding related work as easily as people with a background in industry or infrastructure building or maintenance.
- v. **FLEXIBILITY.** People who believe experience is essential in finding a workplace are less likely to engage in IE activity. Experience measured in years is an indicator of flexibility rather than of anything else. People who stick to their previous work experience are less mobile and so less likely

³ Input and demand scores were based on following items:

- 'An ordinary person can do little to help himself if he/she becomes unemployed.'
- 'People do not need much to live on.'
- 'The state should provide work for everyone.'
- 'The state should pay support aid for an undetermined period of time.' (DEMAND) 'Industrious people can find a way to manage if they become unemployed.'
- 'You need to earn pretty well to live a decent life nowadays.'
- 'People who really look for it do find work in the end.'
- 'All that the state should do is provide an initial aid so that people can afterwards manage on their own' (INPUT).

⁴ People were divided into two categories of ACTIVES and PASSIVES using a score based on a cumulated index, made of the following variables:

- Asked for a job at the Unemployed Office.
- Developed alternative strategies to find work.
- Tried to find work in another town or abroad.

to accept any kind of work. The last two predictors are so strong that they remain significant in the multivariate model.

vi. **NATURE OF INCOME.** People who rely on a fixed income, such as a pension or a wage of some family member in the household, are less likely to work in the IE. This resource seems to give more room for a choice between immediately going into the informal sector and waiting for some better opportunity. Since in many instances this opportunity is unavailable for pure economic reasons (absence of demand in the official labor market), people relying on such incomes are simply going to be unemployed for a longer period of time than the rest.

vii. **OWNERSHIP OF LAND.** The unemployed who own land are more likely to engage in IE activity. Land is also an important factor in the multivariate analysis, although respondents tend to diminish its importance when subjectively stating the importance of their resources. Although respondents tend to minimize the importance of land-based resources for their household when asked directly, it is clear that the resources from the land and the time spent to work it force people to turn mostly to part-time jobs in the informal sector rather than full-time jobs in the formal one. Land ownership is not enough to live on, but provides some basis for autonomy.

viii. **RESIDENCE.** Residence in Piatra Neamț, a provincial town with high unemployment, significantly increases the chances of working in the IE, as compared to residence in Bucharest, where work in the formal sector is easier to find. The general profile of the unemployed in Bucharest shows them to be more pessimistic, more pretentious and less active overall. Economic conditions in Bucharest vary greatly from those in Piatra Neamț. Fewer factories were closed in Bucharest, and the private sector is the most highly developed in Romania. People who are unemployed and continue to stay so in Bucharest are unlikely to have been victims of sudden and massive layoffs, as in Piatra Neamț. The reason for their unemployment is more likely related to personal choice than to structural problems of the regional economy.

ix. **HISTORY OF UNEMPLOYMENT.** The number of months of unemployment is a predictor in both the bivariate and the multivariate analyses. The longer the history on the dole, the greater the chances are that the individual will become engaged in IE. This again seems to indicate that need and not choice is the main drive pushing people to seek work without contract.

Only a few social structural items are predictors for IE participation: gender, occupational background and the nature of income are predictors in the multivariate analysis; while age, education, number of children and material status do not seem to differentiate between those involved in IE and those who are not (see Appendix 4). Two categories of conclusions can be drawn from here:

A. A model of individual choice when there is no choice

Working in the informal sector is only to a very small extent a matter of choice. Romanians are not particularly inclined towards working in the shadow economy without a contract, but they experience that working in the state sector is not a guarantee of survival. In many state enterprises wages are delayed, unpaid or reduced to such an extent that they are no higher than the unemployment benefit. It is revealing to compare the self-declared willingness to work without contract for a decent pay with the self-reports of engagement in such work. The majority of individuals engaged in work without a contract would actually prefer to work with a contract, even for less money, if they were given the choice; while 22% of the total sample indicate a preference for better paid work without a contract, but are actually not involved in IE.

Table 2 Working preferences of the unemployed (willingness towards work without contract and actual involvement)

	Unemployed not working in the IE	Unemployed, at least one activity in the IE	Total
Unemployed who would prefer a better paid job without an official work contract	87 21.8%	81 20.3%	168 42%
Unemployed who would prefer an official contract job with less money	129 32.3%	103 25.8%	232 58%
Total	216 54%	184 46%	400 100%

As in Bucharest, people would rather stay unemployed than engage in IE. In poorer Piatra Neamț, where alternatives are scarce, people engage more in IE, but they would rather work in the formal sector had any choice been offered. For a particular individual the model can predict fairly well if he or she will engage in IE, work in the formal sector if given the opportunity, or stay unemployed. By and large it is clear that work in the public sector is a survival strategy of ‘the most fit’ due to a lack of alternatives, rather than an option to increase personal profit. A majority would prefer a work contract, but cross-tabulation of the sector preference with the actual work behavior shows that choice is severely limited. More people would work in the informal sector than those who actually can find work, and the incomes earned are barely enough for survival. The informal sector actually acts as a second vital source in addition to the welfare support granted by the state, which allows households to survive. The Bucharest unemployed have more choice in their economic environment, but they are more likely to stay unemployed, since they do not fit into the general model of the more entrepreneurial unemployed.

All other things being equal, the same type of individual now engaged in the informal sector will find work in the formal sector – the only difference being that, for now, the demand in the formal sector is non-existent. Our model is therefore in agreement with neoclassical economic theory.

B. The types of unemployment

The nature of unemployment is quite different in Bucharest and Piatra Neamț, so we can distinguish two different types of unemployment. The differences between Bucharest and Piatra Neamț are statistically significant, although individuals can be found who do not match the general types.

- i. The Bucharest unemployment figure is low (5.3%) and a large voluntary component seems to be involved:
 - there is a tight labor market (higher average salaries)
 - 1/3 of the unemployment is due to professional rigidity (people do not want to re-train for another job) or lack of interest in getting a job⁵
 - the Bucharest unemployed are more pessimistic and more difficult to satisfy. This corresponds to the profile of lower subjective welfare in wealthier regions (Ravallion and Lokshin 1998)
 - the Bucharest unemployed do not need to be as active, since their families can often afford to support them via intra-family help in cash.
- ii. The unemployment in Piatra Neamț is high (18.5%) and mixed:
 - lower average salaries are found on the employers’ market
 - 40% of the unemployment is structural
 - 28% is due to local economic rigidities, the individuals being more dynamic and flexible than the business environment; so this component can be considered recession-induced unemployment
 - the unemployed are more professionally flexible and entrepreneurial than their Bucharest counterparts, and are willing to re-train and adjust to the demands of the informal sector
 - the Neamț unemployed have a more positive attitude, being more optimistic and having higher subjective well-being, which is consistent with the standard profile in a poorer region (Ravallion and Lokshin 1998)
 - their immediate needs are oriented more towards investment than consumption
 - families provide help in food more often than in cash, probably from village to town, as they did on a wider scale before 1989. This is consistent with the rural setting of Piatra Neamț, a newer town in which the majority of inhabitants are the first urban generation.

⁵ In the latter situation these people should not have been included in the statistics in the first place, since they do not fit the basic definition of unemployment: individuals who are willing to work and actively looking for a job. What we have here is a clear case of benefit-induced unemployment.

5. Evaluation of the hidden GDP

In order to estimate the additional contribution to the total economic output due to the unemployed individuals' unofficial activity, as a percentage of the officially reported GDP, the analysis should be pursued in a few successive steps.

1. First, the share of the hidden labor market due to unemployed people ($Lg/L = Lg/U * U/L$) can be inferred from our survey data (Ug) and the official unemployment figures available, at the national level and in the two regions (U).

Table 3 Participation in the informal labor market

	Lg/U - % of Unemployed working in IE	U/L - Unemployment rate (1999), %	Lg/L - 'Gray' labor force, %
Bucharest	34	5.3	1.8
Neamț	57	18.5	10.5
Total	45	12.2	5.5

As we see, the real labor force is 5.5 percent larger than that officially recorded if we take into consideration the unemployed who are active in the informal sector. However, there is a wide regional variation in this respect. In Bucharest the figure is only two percent, while in the Neamț county the difference is more than five times as large.

2. Next we have to estimate how much this extra labor force adds to the total output, which is a more tricky thing to do. We can start with the simple Cobb-Douglas production function (Ray 1998):

$$Y = AK^\alpha L^{1-\alpha}$$

where Y is the total output, K the available capital, and L the labor employed. A is a positive constant that measures the degree of technological knowledge and $0 < \alpha < 1$ (the share of the capital income.) So the extra output associated with gray labor, as a share of the total GDP, is thus:

$$Yg/Y = AKg^\alpha Lg^{1-\alpha} / AK^\alpha L^{1-\alpha} = (Kg/K)^\alpha (Lg/L)^{1-\alpha}$$

The problem now is to approximate α . This is mostly guesswork in our context. Nevertheless, there are a few hints we can make use of.

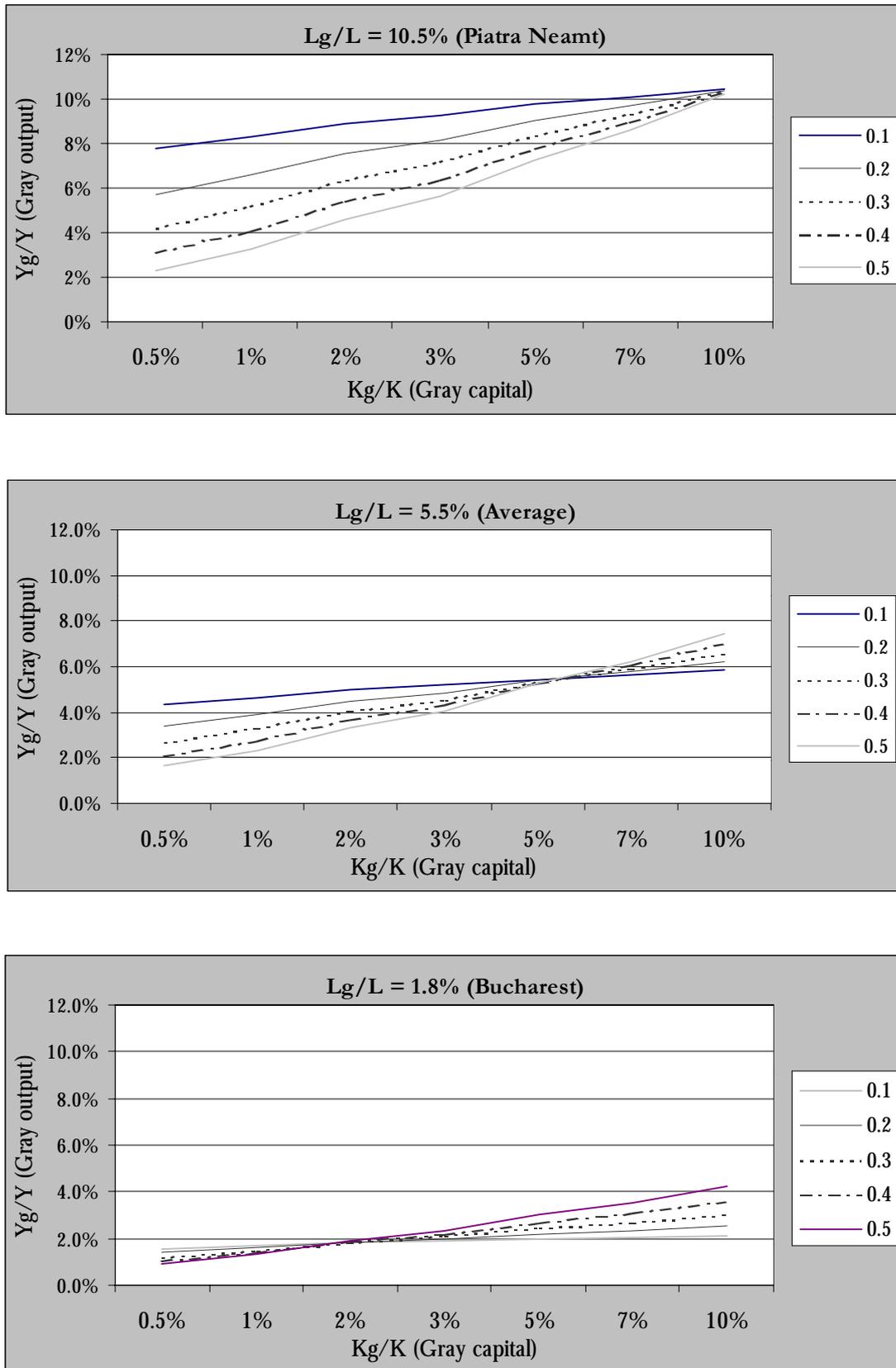
- In the developing countries, where most of the production is labor intensive, α tends to be situated in the lower half of the interval (Ray 1998).
- It is also known that post-communist countries use their stock of capital less efficiently than other countries with similar levels of development. This is especially true in Romania, due to the high distortions provoked by the investment policies of the 70s and 80s.

All these considerations suggest that in the Romanian economy α tends to be closer to 0 than

1. Figure 5 gives an estimate of the hidden GDP created by the unemployed, for values of α between 0.1 and 0.5, calculated with the formula above.

3. It is perfectly reasonable to assume that the extra labor in the hidden sector is also associated with the participation of an unknown amount of hidden capital (Kg). Even though this capital may be small or low in quality, it is probably put to use more efficiently than that inherited in the official industrial sector. But the same reasoning applies to labor productivity: in the hidden sector it is likely to be comparatively higher, in spite of the lower skills and qualifications of the unemployed population. Indeed, they may be even more productive in real terms, if we take into consideration that more than a quarter have two or more jobs in the underground economy. Therefore, the capital inputs in the informal sector add some extra output to the hidden GDP calculated above. Still, since the hidden sector is low-skilled and labor intensive, it is unlikely that Kg/K is greater than Lg/L . In Figure 5 we should therefore take into consideration only the variations to the left of the intersection points – i.e. $Kg/K = 10.5\%$ for Piatra Neamț, 1.8% for Bucharest and 5.5% on average.

Figure 5 Hidden GDP variation with the unemployed labor participation, hidden capital and α



4. The curves allow us to estimate that the proportion of the “hidden” GDP due to the activities of the unemployed in the informal economy is somehow smaller than the corresponding proportion in the total labor force, calculated in step 1 – and the difference is greater when the unemployment is higher (i.e. in Neamț). True, the gray output might be slightly underestimated here in real terms. Unlike the rest of the economy, the informal sector produces only *real* (as opposed to virtual) GDP, since it is not subsidized, does not subtract value by offering unwanted goods and services, does not deliver to customers who are not solvable, and thus does not contribute to the arrears problem. While these phenomena are marginal or non-existent in other developed or developing countries, they represent an important source of distortions in the post-communist economies, which must be kept in mind when analyzing aggregate data. But in spite of this underestimation, the share of gray GDP cannot be much higher than the corresponding share of gray labor (L_g/L), even with substantial gray capital involved (K_g).

In conclusion, our estimation is that the unemployed working in the informal sector add no more than 4 to 6% on average to the official GDP. Their contribution is unevenly distributed geographically:

- Up to 2% in Bucharest, where there are fewer people officially registered as unemployed (the percentage may be higher since casual evidence indicates that the capital involved in informal activities here is more significant).
- 6 to 10% in Neamț, where there is less “voluntary” unemployment and the official GDP per capita is also smaller.⁶

If this is true, it seems that the poorer a county, the higher the amount of the “gray” GDP that must be added to the officially calculated GDP. Thus the informal economic sector which hires unemployed people functions like an equalizer across regions in Romania.

We must stress again that our evaluation in this paper concerns only the share of the informal sector due to the participation of the unemployed (i). The whole informal economy has at least two other significant components: (ii) the black market (criminal activities), and (iii) the unreported activities of the economic agents who do not employ gray labor. We are not able at this point to estimate their size, nor the degree of overlap among the three. However, looking at the figures calculated above for the first component, we have a strong feeling that the total size of the informal sector in Romania would come closer to the conservative figures of Johnson, Kaufman and Shleifer (approximately 20%) rather than those of the US Treasury team (40%) mentioned above.

6. Policy Recommendations

6.1. Repression is useless in this segment of the informal economy

Our findings dispute the idea that normal growth is somehow prevented by the existence of a large gray economy. As long as the evidence indicates that this gray economy is rather a survival strategy in very poor regions deeply affected by the recession a repressive policy would bring little benefit. Repressive policies should focus on the other two components (the black market and tax evasion in the formal sector with or without the approval of the Ministry of Finance), especially in the poorer regions where unemployment is largely non-voluntary. There is little to gain from combating the first (i) segment of IE in these regions, especially since it will shrink naturally as economic growth picks up. Tax breaks would also be of little help, since most of these jobs are occasional, poorly paid, and practiced among individuals and not businesses. A tax break or across-the-board decrease in taxation would not push these people into the formal sector.

6.2. Do not play with the tax system; address the real problems – bureaucratic over-regulation, corruption, and weakness of the legal system.

Given the temporary character of the jobs in this segment of the labor market, it is unlikely that lower taxation would be a stimulus strong enough for employers to officially register their operations. As Friedman et al. (1999) show, it is not high taxation that keeps these entrepreneurs

⁶ GDP per capita is not divided according to region in the official statistics, but we can infer at least the direction of the regional disparities by looking at proxies such as average wage, share of service sector, etc.

underground, but precisely the vicious circle of unnecessary bureaucratization, low tax revenues and poor provision of public goods such as uncorrupt government, law and order and good infrastructure.

6.3. Unemployment benefit regulations should be tightened; a more pro-active policy is necessary.

The unemployed are not the worst off in Romanian society. Welfare benefits are small, but so are the wages in the state sector, which are sometimes even more unreliable, while pensions for peasants are ridiculously small (some are as low as 50 cents per month). The existence of a large number of unemployed displaying a passive pattern of behavior towards finding new work, regardless of sector, points to the idea that the indiscriminate granting of welfare and unemployment benefits leads to some benefit-induced unemployment. Regulations should be tightened and attempts to find work should be given more careful scrutiny in order to encourage the unemployed to be more active and responsible. More effort should be directed towards encouraging and assisting individuals to become self-employed, which is a strategy rarely pursued.

6.4. Different regional approaches corresponding to different regional conditions are needed.

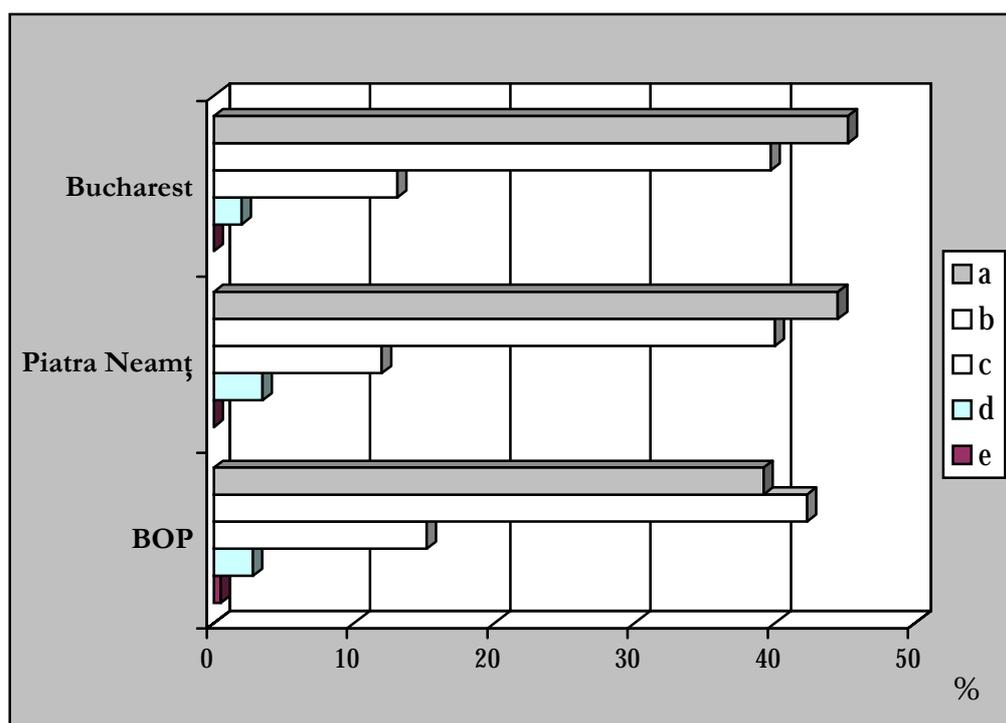
A good policy should discriminate between the various regions. A “national policy” in this area is neither possible nor desirable. Creating a tight conditioning of welfare benefits to encourage more active individual strategies in finding work would probably reduce the rate of unemployment in Bucharest by canceling its benefit-induced segment. In Piatra Neamț however, most people are already working hard to find an alternative survival strategy, so that consideration should be given to the question of how to assist people willing to relocate in order to find work. Regional programs of economic development and/or rehabilitation should be initiated.

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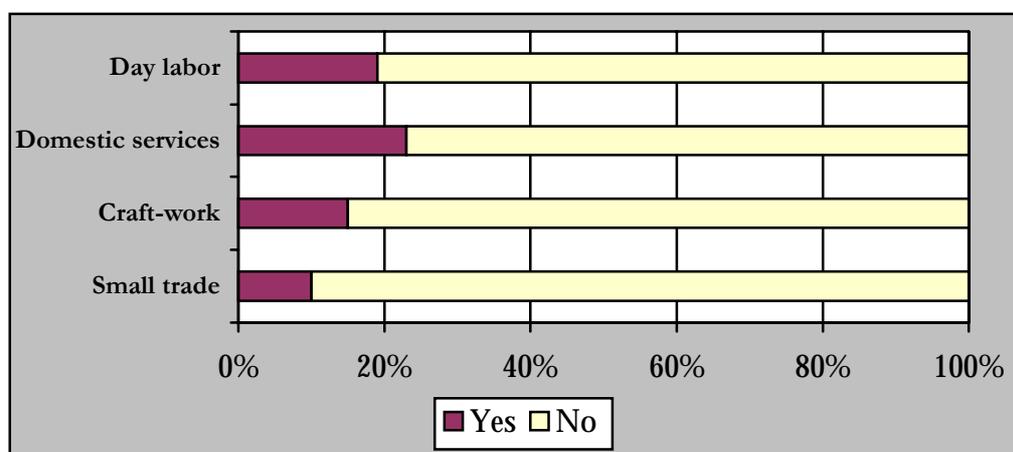
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APPENDIX 1A & B Subjective perception of economic status (%)

How do you evaluate your family income?	Bucharest	Piatra Neamț	BOP
a. It is not enough to live on	45.2	44.5	39.2
b. It is barely enough to live on	39.7	40	42.3
c. It is enough for a decent living, but we cannot afford more expensive goods	13.1	12	15.2
d. We can sometimes afford expensive goods, but we have to restrict spending for other goods or services	2	3.5	2.8
e. No budget constraints			0.5

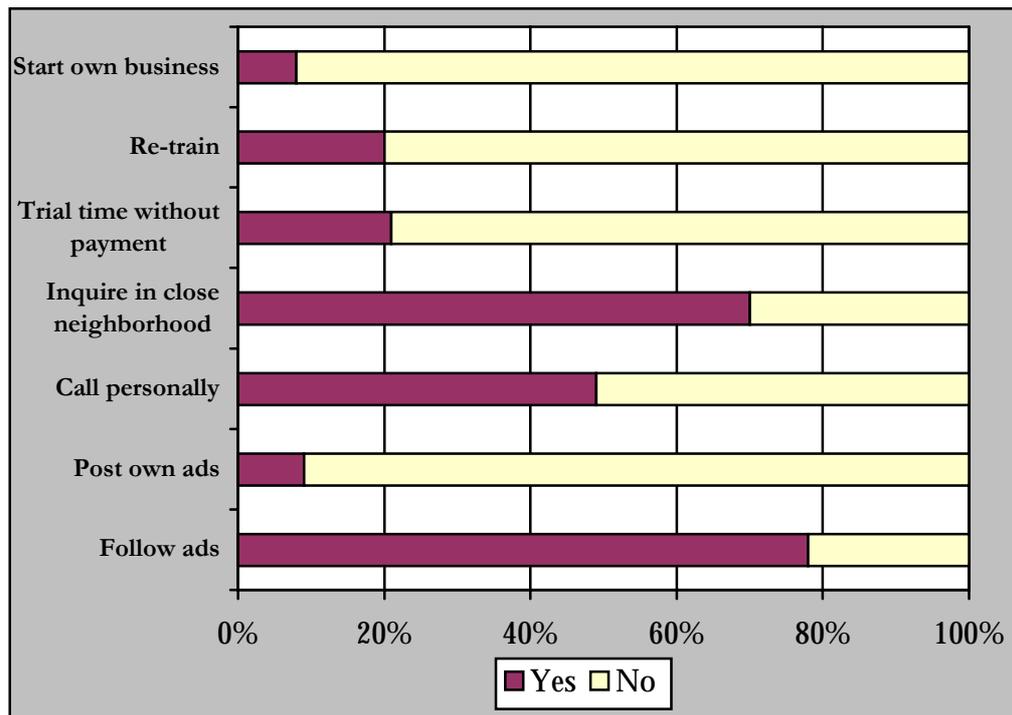


APPENDIX 2 Sources of income supplementary to welfare benefits



Note: The sum of 'Yes' answers is more than 45.5% (the percentage of unemployed who work in the informal sector) because some people report more than one occupation.

APPENDIX 3 Strategies for fighting unemployment



APPENDIX 4 Multivariate Regression Model Predictors of Work in Informal Sector

Variable	B	Sig	Exp(B)
LAND OWNERSHIP	.3073	.6257	1.3598
INPUT	.5481	.0276	1.7300
DEMAND	.4336	.1497	1.5428
HISTORY	.0537	.0014	1.0552
FEMALE	-.1987	.0452	.8198
EDUCATION	.3538	.1588	1.4245
BUCHAREST	-.7239	.0056	.4848
BACKGROUND-INDUSTRY	.9429	.0005	2.5674
BACKGROUND			
TRANSPORTATION	1.3627	.0213	3.9069
WILLINGNESS TO			
CHANGE OCCUPATION	.0039	.1622	1.0039
PERSONAL ATTRIBUTES	-.0121	.9183	.9880
CHANCE	-.1707	.1963	.8431
FLEXIBILITY	-.1910	.0487	.8261
ACTIVE	.8729	.0008	2.3938
FIXED INCOME	-1.1044	.0001	.3314
Constant	.4871	.6819	

N=400

Nagelkerke - R² .350

Overall Correct Percentage 73.25%