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The Informal Economy in East-Central Europe 1991-1998

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Founded in 1963 by two prominent Austrians living in exile – the sociologist Paul F. Lazarsfeld and the economist Oskar Morgenstern – with the financial support from the Ford Foundation, the Austrian Federal Ministry of Education, and the City of Vienna, the Institute for Advanced Studies (IHS) is the first institution for postgraduate education and research in economics and the social sciences in Austria. The **Sociological Series** presents research done at the Department of Sociology and aims to share “work in progress” in a timely way before formal publication. As usual, authors bear full responsibility for the content of their contributions.

Das Institut für Höhere Studien (IHS) wurde im Jahr 1963 von zwei prominenten Exilösterreichern – dem Soziologen Paul F. Lazarsfeld und dem Ökonomen Oskar Morgenstern – mit Hilfe der Ford-Stiftung, des Österreichischen Bundesministeriums für Unterricht und der Stadt Wien gegründet und ist somit die erste nachuniversitäre Lehr- und Forschungsstätte für die Sozial- und Wirtschaftswissenschaften in Österreich. Die **Reihe Soziologie** bietet Einblick in die Forschungsarbeit der Abteilung für Soziologie und verfolgt das Ziel, abteilungsinterne Diskussionsbeiträge einer breiteren fachinternen Öffentlichkeit zugänglich zu machen. Die inhaltliche Verantwortung für die veröffentlichten Beiträge liegt bei den Autoren und Autorinnen.

Abstract

The informal economy was an essential part of the former Communist economies and is now an important part of the transition economies in Central and Eastern Europe. Many claim that it is growing. This paper will consider the relative size and dynamics of the informal economy in different countries during the course of transition, the forms of participation in the informal economy and its role in economic and political developments in the region. In doing so, it draws upon one repeated survey: New Democracies Barometer (NDB) for the years 1991, 1992, 1994, 1996, and 1998. The paper is divided into six parts: Part 1 introduction, Part 2, the informal economy and economic development, Part 4, the structure of participation in informal economies, or who is participating and how, Part 5 Subjective economic well-being and the informal economy, Part 6 the impact of the informal economy on trust in political and social institutions and upon perceptions of corruption, then in Part 7 we end with a multivariate model which looks at all these factors and participation in the informal economy. The paper covers the following countries: Poland, Czech Republic, Hungary, Slovakia, Slovenia, Croatia, FRY, Romania, Bulgaria, Belarus, and Ukraine. For most of these countries, we have repeated cross-sectional data between 1991 and 1998 (see Methodological Appendix 1).

Zusammenfassung

Informelle Wirtschaftsleistung (Schattenwirtschaft) ist auch nach dem Zusammenbruch der planwirtschaftlichen Systeme ein zentraler Bestandteil der Transformationsökonomien in Zentral- und Osteuropa. Möglicherweise ist dieser Wirtschaftsbereich heute größer denn je. Der vorliegende Aufsatz untersucht die relative Größe und die Dynamiken von Schattenwirtschaften in verschiedenen Transformationsstaaten, individuelle Beteiligungsformen und stellt die wirtschaftliche, aber auch die soziale Bedeutung der Schattenwirtschaft für die Entwicklung dieser Regionen dar. Dafür wird auf die Daten der Querschnitterhebungen für die Jahre 1991, 1992, 1994, 1996 und 1998 des New Democracy Barometer (NDB) zurückgegriffen.

Nach einer kurzen Einführung in die Prozesse der Transformation konzentriert sich der Aufsatz zunächst auf die Konzeptualisierung und Beschreibung der informellen Ökonomien. Daran anschließend wird gezeigt, wie Individuen in unterschiedlicher Form in der Schattenwirtschaft beteiligt sind und stellt heraus, welche Bedeutung dies für ihre subjektive Wohlfahrt haben kann. Um den Einfluss und die Zusammenhänge der Partizipation an informellen Wirtschaften für die Konzepte von Vertrauen in politische und soziale Institutionen, aber auch gegenüber Korruption zu zeigen, präsentiert das Papier ein multivariates Analysemodell, das die Länder Polen, Tschechien, Ungarn, Slowakei, Slowenien, Kroatien, Jugoslawien, Rumänien, Bulgarien, Weißrussland und die Ukraine in die Analyse umfasst. Mittels eines multinomialen logistischen Regressionsmodells werden die für die Beteiligung im informellen Markt ausschlaggebenden Faktoren untersucht.

Keywords

CEEC, cash (black) economy, household economy, formal economy, trust in institutions, transition, economic well-being, logistic regression

Schlagwörter

Ost- und Mitteleuropa, Schattenwirtschaft, Vertrauen in Institutionen, individuelle Wohlfahrt, Transition, logistische Regression

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Executive Summary

1. This working paper measures the informal economy in transition countries within post-Communist by means of academic survey research. The database of this working paper is the New Democracies Barometer, which was created and developed by two of the authors, Christian Haerpfer und Claire Wallace during the first decade of economic transition in Central and Eastern Europe.
2. The research identified the extent of household participation in four different economies: the formal economy (work or benefits from the public formal economy) the household economy (production for household consumption), the social economy (dependence upon favours and help from friends and relatives), and the cash or black economy (additional monetized activities). Conceptually, these were distinguished according to the extent to which they were monetized or non-monetized and their integration or autonomy from the main formal economy.
3. The three different forms of informal economy are a necessary precondition of economic survival of up to 90 percent of all post-Communist households. The vast majority of households in Eastern and Central Europe depend upon the informal economy in one way or another. At least during the period of economic transition, the participation of a given household in one of the informal activities is inevitable in order to survive economically.
4. Most of the post-Communist households do not rely on one single form of economic activity. They develop a “portfolio of economies” at the micro-level, combining either formal economic activities with informal activities or combining different informal economic activities in order to get by.
5. Of the informal economies, the household subsistence sector is the most important, being either of first or second importance in 58% of households in Central- and Eastern Europe. In the less successful transition countries, it is even becoming more important although in some of the more successful transition countries it is dying out. Post communist societies with successful economic transformations like Poland, Czech republic or Slovenia show a steep decline of households involved with the household economy, societies with failed economic transformation display even an increase of impact of the household economy.
6. That there does seem to be a virtuous circle of high formalization, high trust less corruption and economic growth. Along with a vicious circle of informalisation, low trust, high corruption, and low growth. However, trust in institutions, especially political institutions was associated with confidence in the government to run the economy.

7. That the formal and cash economy are the most integrated forms of economic activity and are linked in many ways. The cash economy is especially important for raising incomes and buying consumer goods in order to subsidise life styles. The new and important group of entrepreneurs is located almost entirely in the formal economy and in the cash economy.
8. The most autonomous and least integrated forms of household economic behaviour are the social economy and the household economy. Increasing dependence on these economies in these countries is associated with older, poorer people and those in peripheral areas. It leads very often to withdrawal from public and social life.
9. The household economy as one type of informal economy is autonomous from the formal economy, linked with rural areas and almost de-monetized. We found this type of the informal economy especially in Romania, Ukraine, and Belarus.
10. Participation in different economies seems to be associated directly with subjective economic well-being (households involved primarily in household economy are economically deprived) and on the other hand, it did seem to be associated indirectly through the greater access to consumer goods provided by participation in the cash economy.
11. In perspective that is more general: higher levels of formalisation of the economy in the transition countries had been associated with higher levels of GDP per capita.

Part 1 Introduction

1.1 Changing economic systems

The introduction of market reforms in post-communist East Central Europe has led to the creation of a market sector alongside and sometimes replacing to an extent the traditional soviet-type state sector. In some countries, reform has been slow and often delayed by political inertia whilst others have made obvious progress towards a market-type economy with extensive privatisation, even if this often takes the hybrid form of "recombinant" ownership (Stark, 1996). The Czech Republic, Poland, and Hungary would be examples of the latter group. All countries however, have faced rising unemployment, a fall in the number of jobs, inflation and the populations have suffered economic privations during the transition period. Whilst some seem to have come out of this transition stress relatively well, others have not. The growth of a new private sector, including small entrepreneurs along with the privatisation of parts of the economy combined with foreign investment, means that there are a variety of different kinds of employment available and different kinds of work relation within them, although they have not necessarily lead to more jobs; only different kinds of jobs (Earle, Frydman, Rapaczynski, & Turkowitz, 1994).

The informal economy, as an integral part of the former soviet-type command economy (Castells & Kiselyova, 1995) has been transformed too. Whereas previously it may have operated as a parallel, but symbiotically related partner to the socialist planned economy (since it was illegal), major parts of it now resemble more the kinds of tax evasion more familiar in the capitalist market-type economy (Sik, 1993). Indeed, some parts of the informal economy, such as the street trading or small commodity production have turned into legitimate businesses.

In Table 1, we try to bring together these developments in an overview. A classification of economic activities which uses the familiar classification of industrial sectors form the rows of the chart: agricultural, industry, services, to which we have added information and culture as an important new dynamic sector in post-industrial societies accounting for a major area of growth (Lash & Urry, 1994; Castells, 1996). In the columns, we have divided the chart according to "economies". By economies we mean not that each economy is completely separate from one another, but rather that they run according to a different economic logic, although all could be classified within one overarching economic system.

Table 1: Relationship between different economies

FORMAL SECTOR

INFORMAL SECTOR

	I State economy	II Formal market economy	III Informal market economy	IV Household economy and non-monetized exchange
Primary sector (agriculture)	Collective/state farms	Independent farmers	Sale of surplus agricultural products at roadside and markets	Food, pigs etc. for household consumption (15% of NDB families)
Secondary sector (industry)	Many main industries	Some privatised industries	Sweat shops, industrial home working	Production of goods e.g. Clothes, housing by the household
Tertiary sector (services)	Education, health	Financial services, banking, restaurants, plumbers, doctors, teachers, prostitutes in official private sector	Plumbers, carpenters, prostitutes not paying tax, moonlighting doctors and teachers, many migrant workers	Housework, care of elderly, childcare (if monetized can be done by migrant workers)
Quartary sector (Information/Culture)	State media, opera, cinema	Cable TV, satellite, private radio stations	Black market CDs and computer software, videos	Internet communications, shareware etc., virtual migrant communities

First, the *state economy* is often subject to political control and covers areas of activity, which are deemed in the national interest and worthy of state support, even if they do not make a profit. This is part of the formal economy. It includes collective and state owned farms, state owned industries, and education and health in the service sector and state owned media, culture, and communications in the quaternary sector. This sector exists in all societies but in communist societies, this dominated the economy, as it still does in many post-communist societies. The *formal market economy* includes all those activities and enterprises in the formal market sector - that is whose activity forms part of national accounting. However, unlike the state sector, the ultimate criterion is the profit motive (although there may of course be state subsidies and there are important overlaps with the state sector). Thus, this would include independent private farmers in the primary sector, privatised and private industries in the secondary sector, financial and banking services in the tertiary sector and private media, communication and cultural industries in the quaternary sector. In capitalist market economies, this is a dominant sector, whilst in post-communist economies it has been growing.

The *informal market economy*, or cash economy we see as those economic activities, which operate according to market principles - i.e. driven by the profit motive - but do not form part of national accounts. Hence, these can be the same activities as in the formal market economy but which are not part of national accounts or even evade national accounting systems. Such activities include the informal sale of agricultural products, illegal forms of industrial employment (perhaps evading labour market regulations as found, for example, in the sweat shop industries), services such as the work of plumbers, carpenters as well as doctors and teachers "on the side". In the quaternary sector, there is the bootlegging of various kinds of cultural products as well as the black market in computer software.

Finally, the *household and social economies* include all kinds of economic activities, which are not for profit but are exchanged on an informal basis. Thus, households produce many of their own services, either because these have not been drawn into the market economy or because the market economy provides the technology for them to be produced at home (making yoghurt and jam, growing vegetables, laundry, media entertainment such as video and computer games are examples). According to Gershuny and Pahl, the household sector is increasing in post-industrial societies rather than declining as more and more household services are commercialised and technologies are miniaturized in such a way that they can be incorporated as part of the household economy (for example the computer, the video player etc) (Gershuny; Gershuny, 1979; Pahl, 1980).

However, in post-communist societies the household sector remains an important area of production for primary needs in the household. Thus, there are two dynamics of development in this household and social sector. On the one hand, it represents an archaic form of pre-industrial self help, something to which households can retreat when the formal economy around them is collapsing or failing to provide for their needs. On the other hand, it

represents a site of production and reproduction that is an essential element of developments in the post-industrial and information-driven society. The household economy in this typology also includes the social economy, including the exchange of information and services between households. Such activities normally follow a different economic logic to the market or state economies, being carried out for altruism, love, loyalty, duty and so on. Here we might include the care of elderly people and children (some of which can also be marketized), the production of food and household goods and the in the quaternary sector, the many free and exchange services available through communications technologies.

Many have pointed out that the informal economy does not mean the same thing or cover the same kinds of activities everywhere. Rather, it has different functions in different parts of the world. Thus, in his discussion of the informal economy, Portes distinguishes three types of arrangement (Portes, 1994). The first type is the informal economy as a survival strategy and in this sense, it can be found very often in the developing world. The second type is that of dependent exploitation in which sub-contracting organizations use informal and illegal labour to cut costs. This is found very often in advanced economies, such as New York (studied by Portes) but is also described by MacDonald in the UK (MacDonald, 1994). The third type is associated more with flexible growth along family enterprise and this he attributes to the "Third Italy" (see also Mingione, 1988). In fact, the role and function of the informal economy is very different in different contexts. Witness, for example the contrasts between the chaotic subsistence activities originally described by Hart in Africa (Hart, 1973), the kinds of additional work carried out by moonlighters in the Third Italy at a particularly phase of economic development in the 1970s and the self provisioning of households described by Pahl in Sheppey (Pahl, 1984). The first two types in Portes' typology can certainly be found in Central and Eastern Europe. What is certainly clear is that rather than being a universal phenomenon, the informal economy is socially and economically embedded - that is, it can take different forms and have different importance in different contexts. The question we need to ask therefore is: what kinds of informal economic activities are important in Central and Eastern Europe and how are they embedded?

1.2 Changes between economies

In most industrial societies, the state sector has been cut back in favour of the formal market economy in the trend towards privatisation in recent decades. The state, however, continues to regulate the formal market sector, ensuring rules of exchange, contracts, and payments of social insurance and labour regulation as well as the collection of taxes for state revenue. The rules of economic activity are therefore transparent and legally regulated by national or even international law. In post-communist countries, the state sector has been drastically cut back and more activities have moved into the formal market economy. However, the formal market economy is always struggling against the informal market economy, driven by profit, but governed by different rules and regulations of exchange. It is in the interests of

enterprises (in terms of short term profit) to avoid taxation, social regulation and insurance, compliance with legal regulations etc. This is perhaps why many claim that the informal economy has been growing (Schneider & Enste, 2000). The increase in rules and regulations and in social insurance payments for the state provides an incentive for enterprises to stay outside the state sector. In developed capitalist economies, this is easier to do in small enterprises (Castells & Portes, 1989). Enterprises subject to pressures of declining profits, with higher labour costs and under pressure to flexibilize are ones likely to go underground (Portes and Sassen Koob 1987, (Mingione, 1988)). Other forms of enterprise, which are difficult to control, (such as the sale or sharing of black market software) are also likely to be found in this sector. However, in the informal economies, the rules of exchange are not transparent. They are not legally regulated. They are subject to various forms of private or informal understanding (Portes 1994, Wallace, Shmulyar and Bedzir 1999) or they are also subject to criminal control, which can be brutal and violent, as when various "Mafia" interests take over.

In developed capitalist economies, the formal sector is also regulated through institutions of civil society such as professional associations, churches, trades unions that help to ensure the moral conformity of their members through various kinds of social regulation, which is recognized and public. However, the underdevelopment of the independent institutions of civil society, which were also deliberately destroyed by the communist regimes in East-Central Europe, mean that this kind of institutional embedding is also lacking.

In post-communist countries, the retreat of the state has taken place faster than legislation to control market activity could be passed and implemented. Such legislation is also subverted by the agents within the state who are interested in "grabbing" state resources in their own interests or tunnelling out state institutions from the inside (Sik, 1994). This means that some of the transfer to the market has taken place in the informal market sector. The absurdity and non-viability of much legislation in the transition period (such as very high and discouraging taxes on profits, the need for a whole raft of "authorisations" for setting up a business) further encourages such transfer along with the tradition of rule bending and corruption in communist states (Morawska Ewa, 1998, Wedel 1992). Whilst the household and social economies may have grown in developed capitalist societies on account of the dynamics described by Pahl, Gershuny and Castells, in Central and Eastern Europe this sector has also grown as a result of the economic crisis there. Many households are forced back on the resources of friends and relatives and upon growing their own vegetables to survive. In other words, it has regressive tendencies. Thus, in post-communist societies, we would argue, that the retreat of the state economy along with the inadequacy of the formal market economy has lead to a dramatic growth in the informal market economy and in the social and household economies. This leads us to the first hypothesis that we wish to test in this paper:

H1: That there is a changing relationship between formal and informal sectors in Central and Eastern Europe. More specifically, as the formal sector declines, so the informal sector increases.

1.3 The consequences of informalisation

Both Sik and Schneider & Enste have described the deleterious consequences of the failure of the formal market economy to take over from the retreat of the state economy. They can be summarized as follows:

1.3a A fiscal crisis of the state

The state in transition societies is losing revenue from the consequences of the transfer of property to the private sector whilst at the same time, the rise in poverty, unemployment and so on makes increasing demands on state resources. The failure to be able to collect taxes and other revenues as a result of economic activities going underground means that states lose still more money. They may respond by increasing the burden of regulation and taxation, which may further push activities underground and create a disincentive for activities to be formalized. In the end this could mean the take over of parts of the economy by mafia-type organized interests and loss of control by the state where large areas of economic activity are not transparently regulated.

1.3b The undermining of economic indicators

Where large parts of the economy are unregistered, the government's ability to estimate GNP, inflation and employment is called into question. These indicators, crucial for measuring economic performance are rendered very inaccurate or even meaningless.

1.3c The weakening of social policies

Where large parts of the economy disappear underground, the revenue necessary to pay for social policies such as health, housing, unemployment and pensions benefits are unavailable. The consequence is that these benefits are not paid; their staff are underpaid and demoralized, leading to an even greater tendency to circumvent the official system with unofficial payments and earnings. Furthermore, social policies can be entirely inaccurately targeted when the informal economy disguises who is poor and who is really well off.

1.3d The distortion of market forces

A large underground economy distorts the positions of profit and loss in different economic enterprises and ventures and changes their relative market positions. This is important in the context of privatisation when it is important to know the market position and value of different enterprises in order to privatise them successfully. The hidden economy, especially in the form of network relations, has undermined much of the privatisation process in Central and Eastern Europe whereby an apparently profitable company can have been "tunnelled" out and undermined from the inside. In this way, privatisation can actually contribute to the growth of the informal economy.

1.3e The undermining of public morality

The informal economy can lead to the reinforcement of the tendency to bend and break rules, including rising corruption and some examples of super-exploitation (for example by not paying the illegal workers) in situations where the rules of exchange are not transparent or governed by the rule of law. In transition countries, Schneider and Enste (2000) show that rising corruption is correlated with the informalisation of large sectors of the economy. This can lead to either a vicious or a virtuous circle of growth and reform. In the words of one study cited by them:

The wealthier countries of the OECD, as well as some in Eastern Europe, find themselves in a 'good equilibrium' of relatively low tax and regulatory burden, sizeable revenue mobilization, good rule of law and corruption control, and a (relatively) small unofficial economy. By contrast, a number of countries in Latin America and the former Soviet Union exhibit characteristics consistent with a 'bad equilibrium': tax and regulatory discretion and burden on the firm is high, the rule of law is weak, and there is a high incidence of bribery and a relatively high share of activities in the unofficial economy (Johnson, Kaufmann and Zoido-Lobaton 1998:1)

The decline of public morality in turn undermines public confidence in the state and its institutions, which are seen as increasingly irrelevant for governing and regulating economic activity. This further increases the loss of control of the state over the economic life.

The formalization of the economy is associated with the institutionalisation of market relations regulated by the rule of law. The state has an important role in this, but so do the institutions of civil society through consumer protection, professional associations, and so on. In a fully institutionalised environment, market exchange is more regularized and predictable, backed up by legislation and contracts can be enforced. In other words, this associated with *formal social capital* as we discussed elsewhere (see Nowotny; Raiser; Haerpfer and Wallace 2000). However, following from the issues set out above, we might

assume that the increasing informalisation of some economic relations might lead to a decline in the legitimacy of the public sphere. We can measure this in this case by look at levels of trust in public institutions and perceptions of increasing corruption. This leads us to our second hypothesis, which is:

H2: That *increasing* informalisation is associated with a decline in the legitimacy of the public realm.

1.4 The role of the informal economy in transition countries

As mentioned already, under some circumstances of transition, the informal (household and social) economies can represent the regression to an earlier form of subsistence peasant-style self-sufficiency as a survival mechanism in post-communist transition societies. For many families this is the main way to survive situations where living standards have plummeted and many households are left with small or even no incomes. In the former Soviet Union in particular, this may be because although there is officially little unemployment, wages are often not paid or payments are delayed. For these families there can be a downward spiral of greater dependence on the informal economy encouraging a further retreat from the formal economy, lack of search for alternatives as families spend all their time growing vegetables. This was the outcome of one study of University academics, which found that either they developed external networks and became entrepreneurial in supplementing their inadequate University salaries or they retreated into working on their garden plots as a means of survival. Those who chose the latter strategy were increasingly cut off from professional academic and international networks that might have helped them to break out (Müller, Wallace, Chvorostov, & Kovatcheva, 1997).

However, the informal economy is also often a seedbed for new enterprise as it represents new kinds of market type activity, which can provide the capital for more formalized small businesses later on (Okolski 2001). It can be the place where entrepreneurial skills are practiced and honed and where more "middle class"- aspirations encouraging further entrepreneurship are nurtured (Piiirainen, 1997). This leads us to ask: is the informal economy only part of a survival strategy or is it a source of new wealth?

One study, carried out as part of the PHARE/ACE-program and investigating the informal economy in Romania, tested these propositions. Using a study carried out in the mid 1990s, they concluded that the informal economy was important for households at all economic levels, but that one group were in what they called a "dependent" situation - they depended upon the informal economy in order to supplement their livelihoods. These were mostly poorer manual and less educated people. Another group were in a "dynamic" situation: they used the informal economy to create wealth. These were more likely to possess more education and professional skills, so that the authors conclude that these may be the

nucleus of a new entrepreneurial class. A final category were the "improving" group who could be found at all social levels, who used the informal economy simply to improve their incomes (Duchene, Adair, & Neef, 1998).

Another study carried out by Timo Piirainen interviewing twenty households in the St. Petersburg region twice between 1993 and 1996, argues that it can be both a source of survival and as a source of enrichment (Piirainen, 1997). He analyses the situation in terms of three economies: the Soviet (state) economy, the market economy, and the informal (second) economy. Households straddled one or the other of these. The most vulnerable households were dependent only upon the state economy, whilst the most enterprising used both the market and the state economy (by having perhaps a family member in both). The more traditional households got by with traditional means: the state plus informal economy. Piirainen predicts that this will shape the future system of stratification as enterprising households become more middle class in their aspirations and life styles. Richard Rose and Christian Haerpfer (1992) describe a similar typology based upon the idea of "portfolios" of economies, which include the formal, the social and the "uncivil" or illegal.

However, these more detailed studies of household activities in the informal economy can inform us neither about the different role this plays in different countries, nor about how this might have changed over time. The aim of our study therefore is to consider the role of households within different economies both comparatively and over time. This leads us to our fourth hypothesis:

H3: *That informal economic activity is a form of survival for poor families. OR alternatively, that informal economic activity is a form of entrepreneurial enrichment for successful and aspiring families.*

1.5 Formalization, Informalisation and economic well-being

The formalisation of economic activity is more likely where there is growth rather than stagnation in the formal economy. We could assume that if more activities come in to the public realm, then more money also flows into state coffers leading to a positive rather than a negative cycle of reform. We might also associate this with rising levels of subjective economic well-being: if reforms are going well, people will feel happier about their own situation. On the other hand, subjective well-being and growth might be independently associated together. This leads us to our next two hypotheses, which are:

H4: *That economic growth is associated with the formalisation of the economy*

H5: *That increasing formalisation is associated with increasing subjective economic well-being*

1.6 Defining and measuring the informal economy

1.6a How to define the informal economy

Before we proceed it is necessary to be more specific about what we mean by informal economies and how these can be measured. This is important because different authors are often talking about quite different things in this discussion.

The informal economy is a difficult subject to tackle precisely because there are so many definitions of it. Sik defines it very simply as "all transactions which are not registered by the state are considered to be part of the unregistered economy" (Sik 1995:9). In this he includes "smuggling, just as much as domestic work, barter as well as brokerage, reciprocal labour exchange and economic corruption, and subsistence farming as well as gambling provided they are not covered in official statistics." (Ibid.). This very broad definition avoids the narrow issue of tax evasion, which depends upon the particular type of taxation system. Thus, when taxes were introduced in Central and Eastern Europe there was tax evasion, thus increasing the size of the informal economy even if the activities and transactions had not changed!

Schneider and Enste (1999) use a typology, which includes both illegal activities and legal activities that avoid tax. They divide such activities into non-monetary and monetary transactions. On the other hand, Sik produces a typology, which is divided according to the following dimensions: Legal and illegal activities, activities which are integrated into the main economy or are autonomous (for example, agricultural production for private sale is integrated whilst subsistence agricultural production is autonomous); source of income, which can be from labour, from position (network capital) or from financial capital (wealth, money and production assets) (Sik, 1995). Rose and Haerpfer (1992), on the other hand draw up a list of different economies which include: official economy (which is legal, monetized), the social economy (which is non-monetized and a-legal (household production, help from friends, use of connections) and the uncivil economy (which is illegal and monetized) including second economy activities, paying connections and using foreign currency. Hence, their dimensions are legality and monetization too. Neef and colleagues on the other hand, prefer to exclude the household sector (and this is also the case with most economic models) and to concentrate mainly upon the monetized, illegal elements of economic activity, which are not recorded.

What is evident in studying the informal economy is that we need to take into account the way in which it is socially embedded in different kinds of economies and in different kinds of activities and traditions (Polanyi, 1944; Portes, 1995; Pahl, 1984).

Our own typology is based upon questions that it is possible to ask in a survey. Thus, we have rejected the legal/illegal distinction because it is not always possible to ask about this in a

questionnaire and expect to get honest answers. Furthermore, because laws and regulations are changing constantly in the countries with which we are concerned, activities become legal and illegal in the process in a manner that is impossible to build into our model. The dimension of monetized/non-monetized has been included (since our typology is based upon Rose's original questions) and Sik's dimension of integrated and autonomous has been incorporated in a modified form. Hence, our typology takes the following form:

Table 2: Typology of formal and informal work in East-Central Europe

<i>Level of integration</i>	<i>Level of monetization</i>	<i>Economic sector</i>	<i>Activity</i>
Integrated	Monetized	Formal economy	Employment/Pension/Benefit in formal sector
Semi-integrated	Monetized	Cash economy	Getting foreign money, earnings from second job, incidental earnings
Semi-Autonomous	Non-monetized	Social economy	Obtained as favours, help from friends and relatives
Autonomous	Non-monetized	Household economy	Growing own food, repairing housed

Thus, the continuum stretches from *integration* to *autonomy*. We assume that the formal sector is the most integrated, followed by the cash economy, which is a kind of "shadow" of the formal sector. However, we assume that the household economy is the most *autonomous* - it can exist in almost any form of economic organization - whilst the social economy is also more or less autonomous and perhaps dependent more upon social cohesion in the society than upon economic organization. The success of household production, on the other hand, does depend upon access to a plot of land or allotment, which is in turn a product of the social and economic organization of the society.

1.6b How should we measure the informal economy?

There are three methods for measuring the informal economy: *direct* approaches, *indirect* approaches and *modelling* (Schneider & Enste, 2000); Sik, 1995). Each have advantages and disadvantages and each tend to come up with different estimations as to the size of the informal economy. The most *direct method* is through the sample survey. However, this is likely to under-report the informal economy as respondents may be unwilling to admit to what they do. Results are also sensitive to how questions are asked. Furthermore, the complexity of informal activities is difficult to grasp in a questionnaire. To this we can add that there are in fact two types of questionnaire approach: to ask about activities in the informal economy or to ask about consumption (Portes, 1994; Pahl, 1984). The latter is less likely to encourage

dishonesty and can give some indication of the volume of informal services. However, it cannot tell us who participates in the informal economy as actors.

Sik (1995) suggests a corrective to the direct survey method through using instead data from a household panel survey or time budget data. This tends to provide much more detailed information about the informal activities of respondents and could certainly be used to measure changes over time. This source is rather under-utilized but the disadvantage is that most countries in Central and Eastern Europe do not undertake such surveys on a regular basis. However, repeating the sample survey at regular intervals can obviate some of the inaccuracies associated with sample surveys. In this way, the stability and the validity of the data using the same questions over time can be judged and the level of error reduced. This is the reason that we have selected the NDB survey with which to work.

Another direct method is to look at the discrepancy between income declared for tax purposes and that measured by selective checks. However, this is likely to overestimate the black economy because the checks are made based on the suspicion of tax evasion.

None of these methods, according to Schneider and Enste (1999) are able to provide an idea of the dynamics and development of the black economy over time. In our opinion, this could not be true. The surveys proposed by Sik would in fact solve this problem. The problem then is the lack of systematic and comparative surveys of this kind in Central and Eastern Europe. However, repeated cross sectional surveys (trend data) such as the New Democracies Barometer, which we analyse here can also measure change over time on the gross level. In turn, to measure change over time on the net level, we need real panel data, i.e. to follow the same sample of people over time.

The second method is the indirect approach, which involves using various "indicators" for measuring the likely effect of the informal economy as tracers. These would include the difference between income and expenditure statistics, studies of the labour force, studies of the volume of transactions and studies of currency demand, studies of electricity demand, including a corrective by Lacko to take into account household electricity consumption. Such estimations are very vague and ultimately unsatisfactory (see discussion by Enste and Schneider).

A third approach is to develop models using multiple causes and indicators as well as changes over time. Thus, for example estimations of the burden to taxation, the burden of regulation and the tax morality of citizens are used to make estimates (see Schneider and Enste 2000). Once again, this relies on building in many assumptions and guesses rather than real measurements of actual activity.

A further method, not mentioned in these sources, but used with great efficacy in Central and Eastern Europe, is to undertake a qualitative survey in the manner of Piirainen or Neef and

colleagues. This has the advantage of being flexible enough to look at a range of different kinds of informal activity along with its *habitus* or the context of such activities and its meaning for different social actors. The disadvantage of this is that it is difficult to generalize to the population as a whole. Some of these problems are overcome through the use of the ethno-survey, which combines qualitative and quantitative techniques and has enabled Okolski, for example to estimate the size of the illegal labour force in Poland (Okolski 2001). Sik and colleagues have also tried to combine quantitative and qualitative methods in measuring the informal economy using detailed observational studies (Czako & Sik, 1999). Thus, there are certain innovations in research that are helping to bridge the gap between quantitative generalization and qualitative depth but these are as yet not well developed in comparative perspective.

We can conclude then, that there is no very satisfactory method for measuring the informal economy. This is compounded in transition countries where the forms of measures which make up the indicators are only in the process of development and many parts of the economy are unregulated or unmeasured. Furthermore, the measures that exist are often far from accurate or they are politically exaggerated. An example of the former would be the extraordinarily low - 3.7 percent - official unemployment rate in Ukraine (according to the 1999 EBRD Transition Report), a country where a large proportion of the workforce are in fact not working according to empirical studies (Wallace, 2000; Bedzir, 2000). An example of the latter would be the impressive growth recorded in Belarus in the last decade, a country that is in reality in a very similar situation to Ukraine and Russia economically.

1.7 Method of Research

In our study, we rely mainly upon the direct measures of household economic activity as measured by surveys. We can then put them into relation to both subjective indicators such as attitudes and to objective indicators such as income, age, and education. We can also compare this with aggregate indicators such as GDP per capita and economic performance. The disadvantages of such data collection methods have been indicated above. The main parameters of the survey are provided in Appendix 1. The main questions we are using to construct a household typology of formal and informal activities are a series of questions asking about what is the main sources of income for their family - then giving a range of alternatives which span the formal economy, household production, social and cash economies (details are given in Figure 2). Respondents were then asked what was the second most important source of income for their households that enabled us to look at how households combined different economies. We then looked at the changes over time and at variations between countries as well as the social characteristics of households using different economies. The question wording changed slightly between 1991 and 1992 but remained the same thereafter. Therefore, caution should be exercised in interpreting data from 1991, as it is not strictly comparable.

In the first part of the analysis we use only the question: what is the most important source of income for the family. However, this underestimates the role of informal economies, which are more likely to be supplementary. We therefore go on to redefine the data according to the way in which participation in different economies is combined.

We assume that the information about the formal economic activity, would elicit reasonably honest answers as there is no need to conceal this information and it can be corroborated with other questionnaire items. The question about household production is also unlikely to be concealed and we would assume that this was also reasonably accurate. The questions about the social economy however, are difficult to answer in a simple way because the social economy is a good deal more complex than our questions imply. In addition, people may want to conceal the fact that they depend upon friends and relatives for help. The questions about the social economy are therefore likely to under-estimate the extent of activity in this economy. The questions about the cash economy are likewise likely to be an underestimate of this kind of activity. People are likely to want to conceal their activities in a cash economy from an interviewer and the complexity of such activity is not covered in our questions. To sum up, we would assume that whilst we have a reasonably good measure of the formal and household economies, we would be under-estimating the social and the black economies in our analysis. Nevertheless, the data can give us some indication of activity in these sectors and the relative consistency of these data over time indicates that that they are reliable.

Part 2 Dimensions of the informal economies

As described above, one of the better direct measures of the informal economy is household activity as measured in repeated cross sectional surveys. Although this underestimates informal activity, because people might be reluctant to declare or classify their activities as informal, it can give us some indication of the relative importance of the informal economy and the changes over time. Below we begin with some general descriptions of formal and informal activities before looking in more detail at who uses different economies and how.

2.1 Size of the informal sector

The first indicator we shall consider is the formalization of household activities - that is, the extent to which households can survive from their formal jobs.¹ This can give us an indication of where and how people find their main jobs insufficient and may be forced to search for alternatives. If we look at Figure 1, it shows us the results for 1998. We can see that households in Slovenia are the ones most likely to be able to survive on their main jobs, followed by the remainder of the Central European countries, with the South Eastern European countries and the Eastern European countries more towards the bottom end of the scale. In Ukraine, only 8 percent are able to survive from their main incomes. Anyway, we should mention that the interpretation of this variable should be done careful because of the many missing values in it (occasionally about fifty percent and more). If we now consider how this indicator has changed over time (Figure 2), we can see that in general, there has been a divergence between countries. In 1991 and 1992, they were more closely bunched at between 22 and 58 percent, but they now range between 7 and 62 percent. Furthermore, there is variation between countries where formalization has been increasing in general (Hungary, Czech Republic, Slovakia, Poland) and countries where it has been declining over time (Ukraine, Romania, Bulgaria and Croatia). In Belarus, it has stayed more or less the same.

¹ Question wording: Do you get enough from your main job to buy what you really need? Definitely enough, just enough, not quite enough, definitely not enough

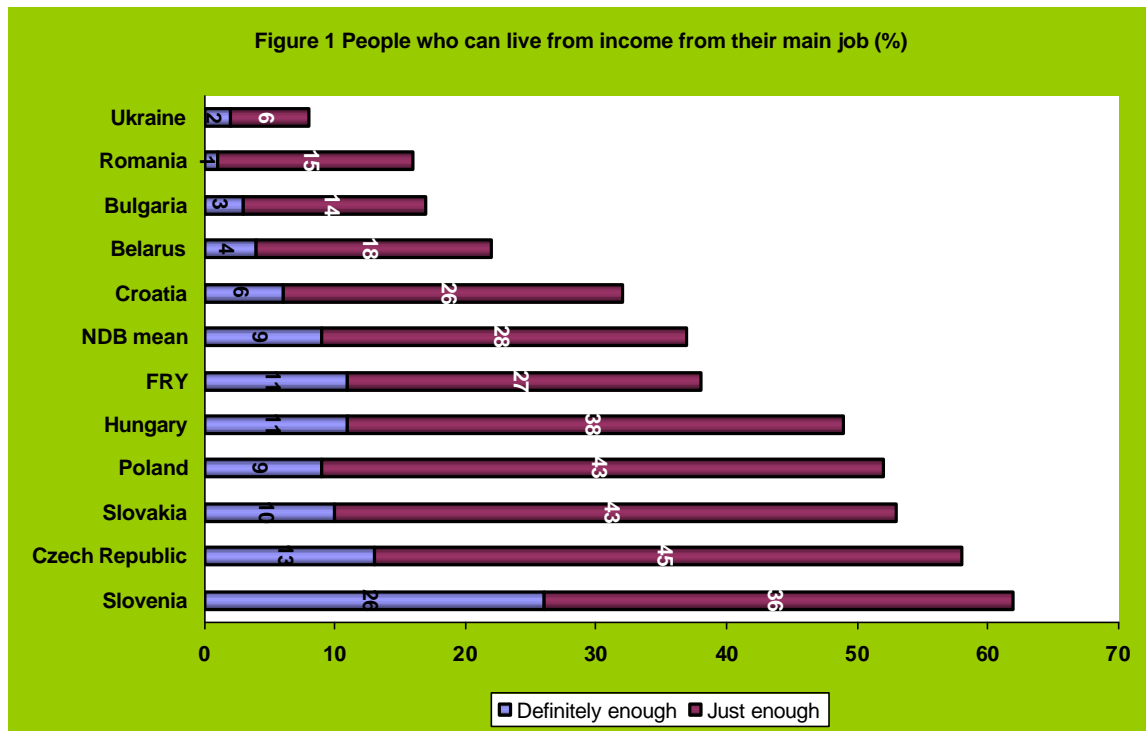
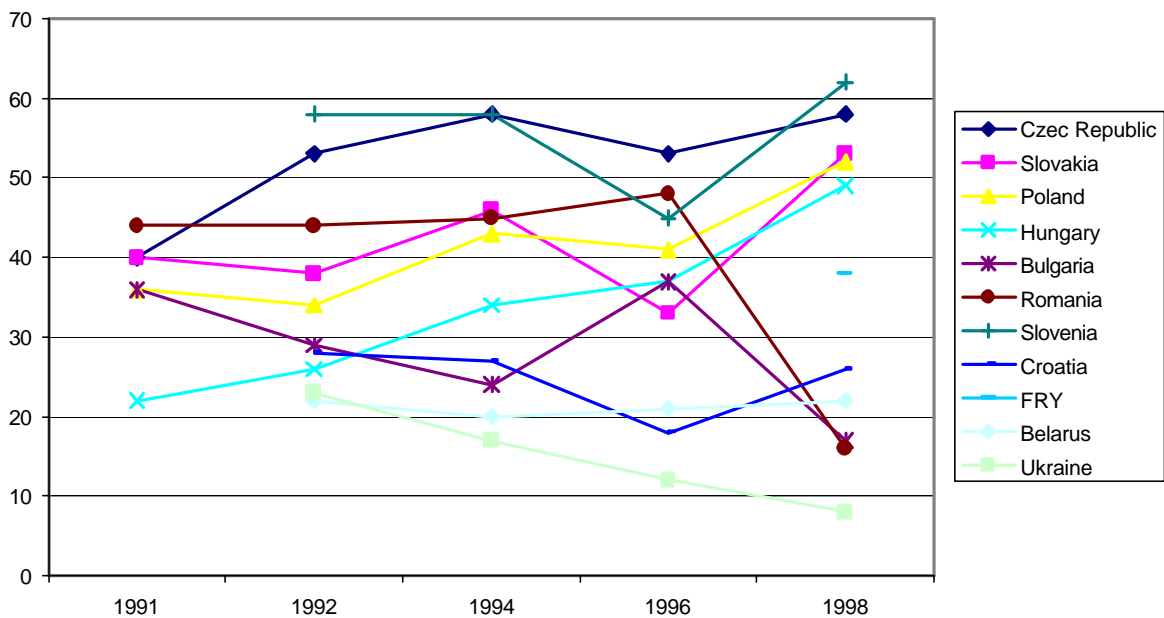


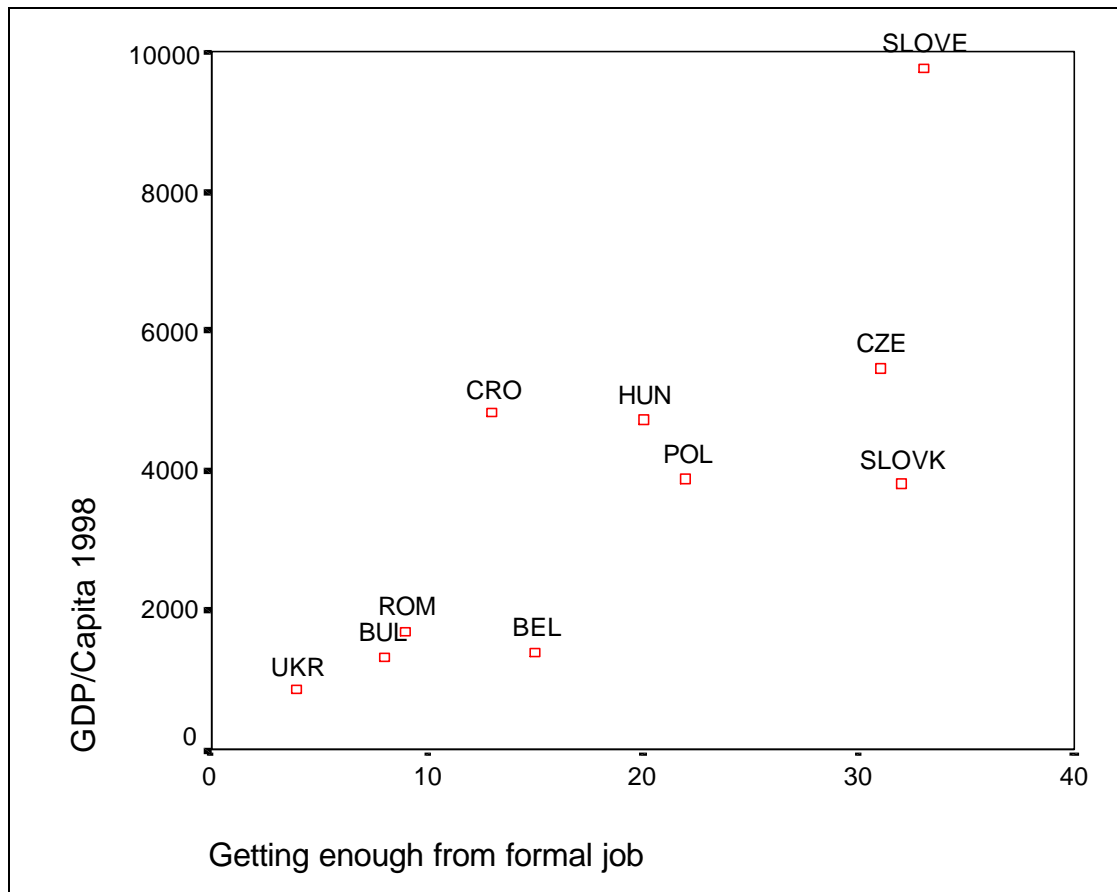
Figure 2: Changes in numbers who can live from their main job 1991-1998



From these data, we would expect the informal sector to be most important in Ukraine, Romania, Bulgaria, and Belarus, followed by FRY and Croatia. We would expect it to be least important - and indeed declining - in Czech Republic, Slovakia, Poland, Hungary and Slovenia.

Furthermore, we can see (Figure 3) that the ability to live from their main income is also very highly correlated with GDP per capita. Hence, the GDP per capita is a good indicator of how far people might be forced to search for alternative sources of income. However, as we shall see, this is not the only indicator of participation in formal and informal economies.

Figure 3: GDP per Capita and people living from main job



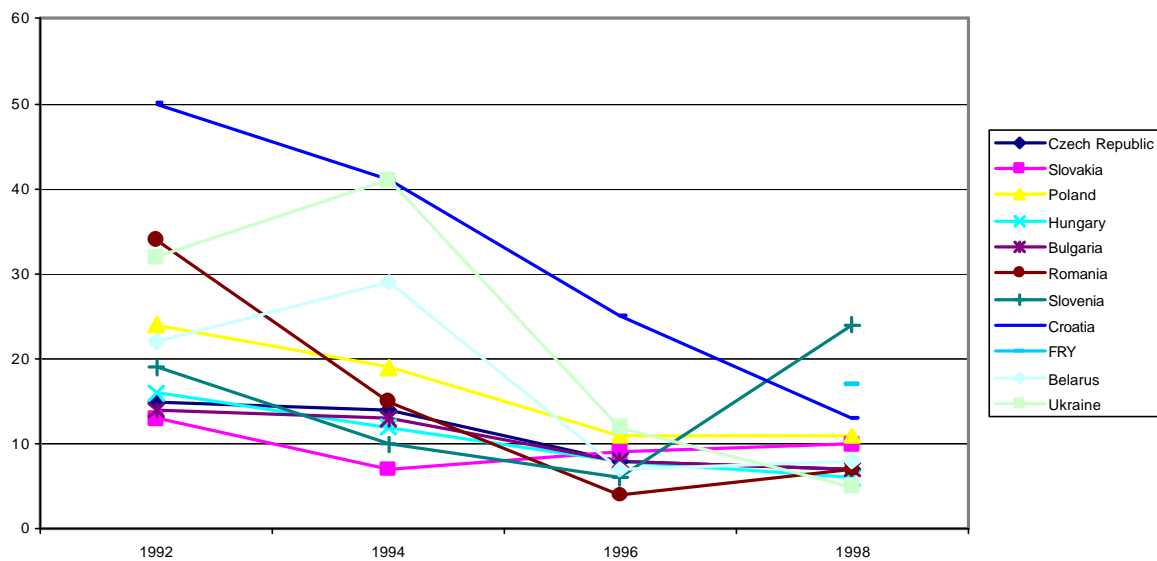
Correlation coefficient Pearson's 'r' = 0.779

2.2 Second Job

Another approach is to ask about second jobs. Second jobs are not necessarily indicators of the informal economy, however, because the second job could take place in the formal economy. Nevertheless, it is an indication of earnings additional to the main formal employment. Here if we look at figure 4, we can see that second job holding has declined in all Eastern Central European countries except for Slovenia. In general, second job holding was most important among the countries of the former Yugoslavia (see table 17 in appendix) and maybe represents their propensity towards being guest workers in Europe and the relatively free travel possibilities for the nationals from those countries under the former regimes. Except in these countries, second job holding is now not very important.

However, this could be interpreted as a support for the argument of Endre Sik that the second economy, characterized by second job holding, is replaced by the informal economy, characterized by tax evasion and full time activities (Sik, 1993).

Figure 4: Changes in second job holding 1992-1998



Part 3 Informal economies and economic development

In this part of the paper, we are testing H2 and the argument that informal economies might undermine economic development.

H2 That institutionalisation of the market economy is associated with economic growth and with the formalization of economy

For this part of the paper, we have taken measures of annual growth as the dependent variable measuring economic development. The measure of different economies was the percentage of households in the different economies in each country, considering formal, household, social and cash economy separately. We then used first bivariate analysis and then multivariate OLS-regression to measure the consequences of different kinds of economy and different kinds of social capital on economic growth.

3.1 Consequences of different economies for economic growth

The results are summarized below:

Table 3: Correlations between growth and different economies

	Annual growth 1990-1999 mean
Households in formal economy	.296
Households in social economy	.177
Households in cash economy	-.038
Households in household economy	-.432
	Pearson's correlation

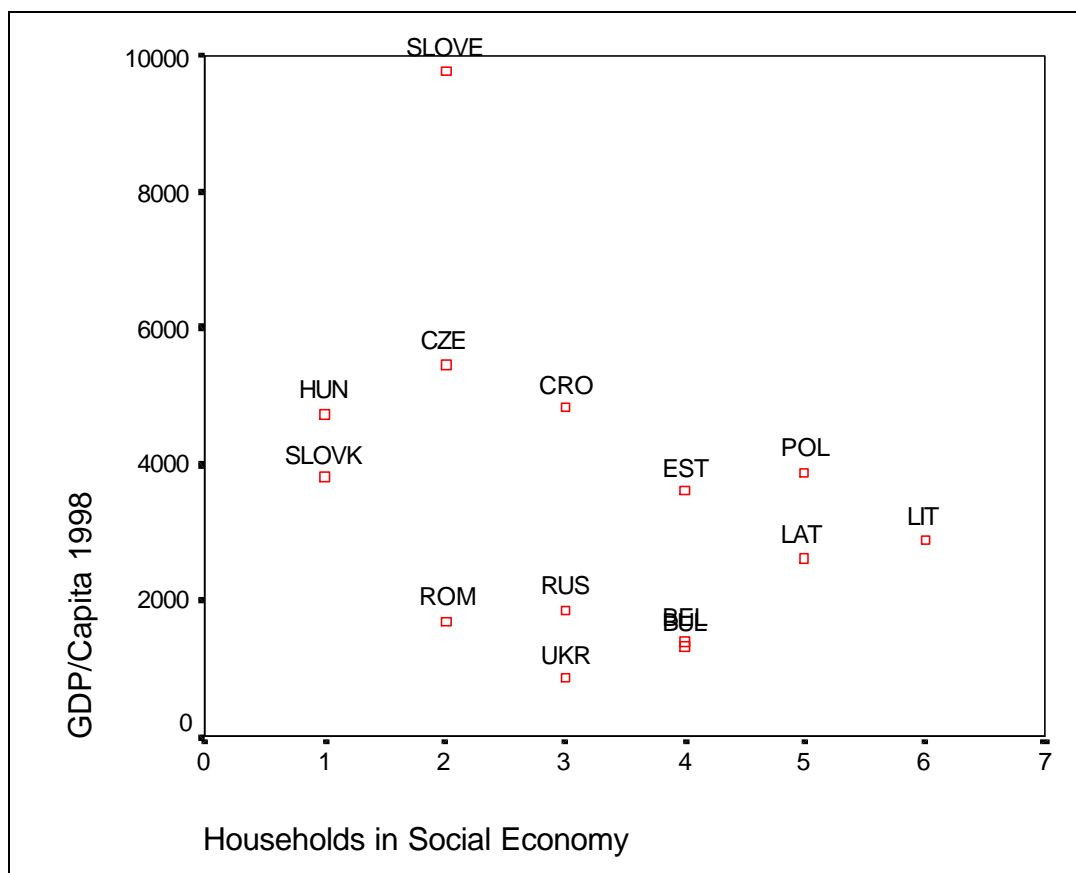
Source: NDB 1998 N=12 788, NDB 1996 N=2878, NDB 1994 N=3500

We can see from Table 3 that the number of households in the formal economy is mostly related to economic growth - the more households in the formal economy, the higher the growth. The households in the social economy is also correlated with growth – although not so strongly. The number of households in the cash economy is negligible and negatively correlated with growth, whilst the number of households in the household economy is strongly and negatively correlated. In other words, economic growth exists when more households move into the formal economy and lack of growth means that more households move into the household economy.

3.2 Economic conditions in different countries

We can now turn to the GDP per capita in different countries (in 1998 when the survey was carried out) and its relations with different economies. Participation in the social economy was negatively correlated with GDP per capita in Lithuania, Latvia and Poland having the highest amount of households in the social economy and also relatively low GDP, whilst Slovakia, Hungary and the Czech republic had few households in the social economy and also relatively low GDP, whilst Slovakia, Hungary and the Czech republic had few households in the social Economy but high GDP.

Figure 5: Participation in Social Economy and Growth



Correlation coefficient Pearson's 'r' = -0.356

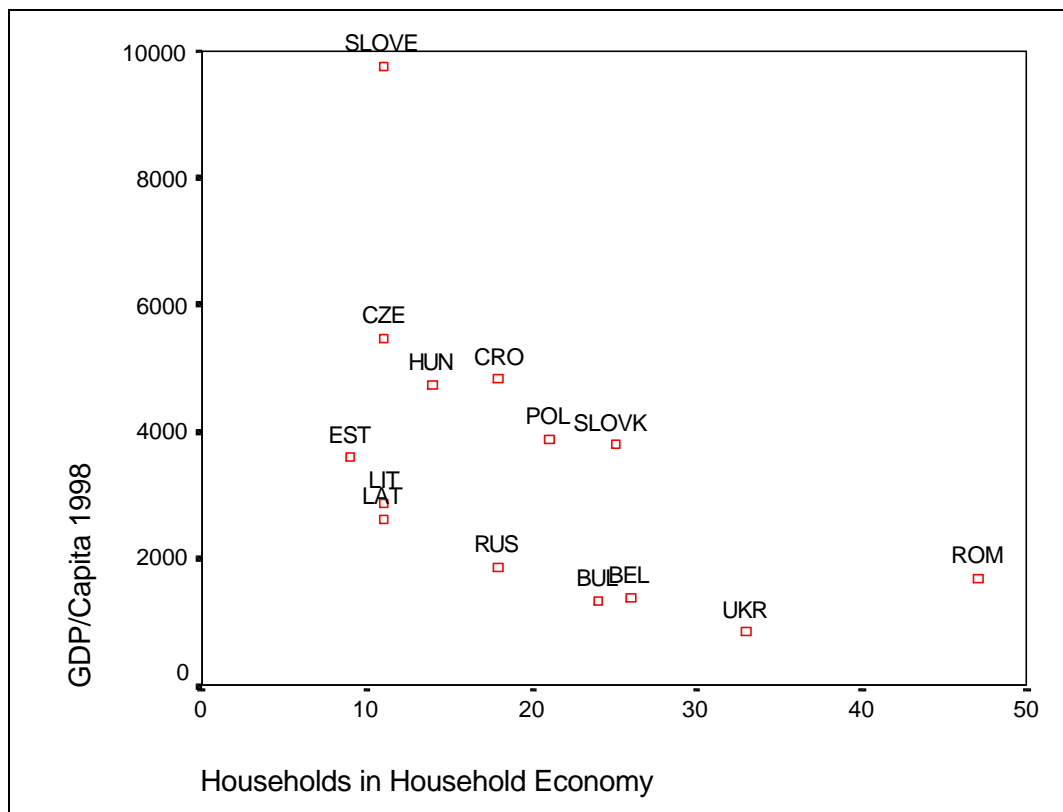
Households in the household economy were also associated with low GDP (negatively correlated). At one extreme, Romania and Ukraine had large numbers of households in the household economy and low growth, at the other extreme, The Czech Republic, Estonia, Hungary and Croatia had relatively high GDP per capita and fewer households relying upon the household economy.

The black economy however, was weakly associated with higher GDP. The Czech Republic and Hungary had the highest GDP but also fewer people in the black economy. In Croatia, by contrast and Estonia there were large numbers in the black economy and relatively high GDP. In Russia and Ukraine, growth was low even if the black economy participation rate was high.

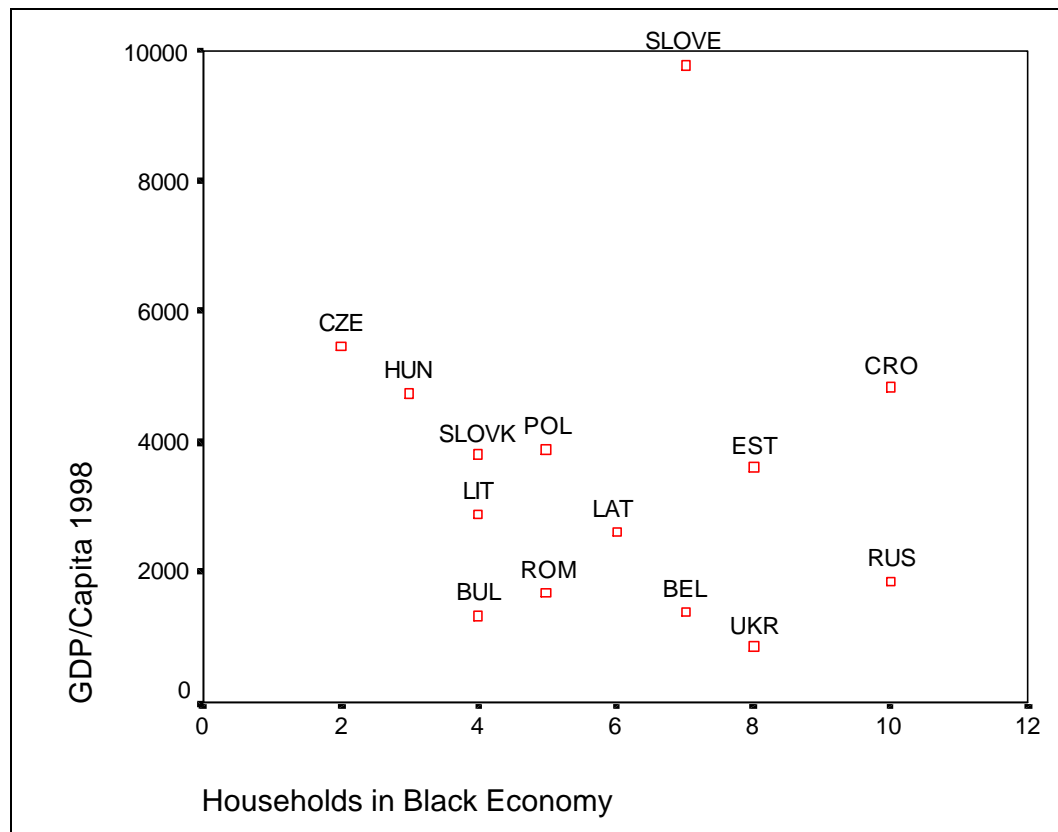
Finally, if we turn to the members of households in the formal economy, this is clearly related very strongly to GDP per capita. Here there is a clear trend for higher incomes to be associated with more people in the formal economy. This stretches from Romania and Ukraine as poor countries with low per capita income and fewer people in the formal economy to the Czech Republic and Hungary as wealthier countries with more people in the formal economy.

The *household* and *cash* economies were all negatively correlated with growth. The household economy has a correlation of $-.432$ with annual growth. Here we can see just the opposite patterning of countries than we saw in the case of the formal economy, with Ukraine and Romania leading, Slovenia, Czech Republic and Hungary at the other pole and the other countries clustered in between.

Figure 6: Participation in the household economy and economic growth



Correlation coefficient Pearson's 'r' = -0.535

Figure 7: Participation in cash economy and economic growth

Correlation coefficient Pearson's 'r' = - 0.098

To return to our two hypotheses

H2 *That institutionalisation of the market economy is associated with economic growth and with the formalization of economy*

It does indeed seem to be the case that the institutionalisation of the market economy is associated with economic growth and with increasing formalization and decreasing informalisation. However, lower growth and low GDP per capita were associated with more people in the household economy.

3. 3 Conclusions: Informal economies and economic development

1. Economic growth is associated with increasing formalization
2. The informal economy most associated with lack of growth is the household economy.
3. It would seem therefore, that lack of growth leads to a de-monetization of the economy, a retreat into the household and social spheres, although the monetized informal (cash) economy was perhaps more associated with growth.

Part 4 Participation in different economies

4.1 Typology of Economies: which economy is most important?

In each year of the NDB survey, a question was asked about which sources of income were most important and which were second most important for the survival of the family². The responses were clustered in four groups according to whether they represented the *formal*, *household*, *social* or *cash* economy. The structure of this typology could be seen in the Table 4 below.

Table 4: Typology of Economies*

FORMAL	HOUSEHOLD	SOCIAL	CASH (BLACK)
Earnings of regular job	Growing own food	What we get as favours	Buying goods with foreign money
Pension, Unemployment benefit	Repairing house	What we get with help of friends, relatives	Earnings of second job
Benefits at place of work, such as holidays, meals			Incidental earnings

* Data Base: NDB (New Democracy Barometer)

The category *formal* economy contains earnings from regular job, pension or benefit and benefits from place of work, the *household* economy include: growing own food and repairing house, the *social* economy: getting favours or help from friends and relatives and the *cash or black* economy: earnings from second job, incidental earnings and getting foreign money³ (see Rose & Haerpfer, 1992). Respondents were asked what was the first most important

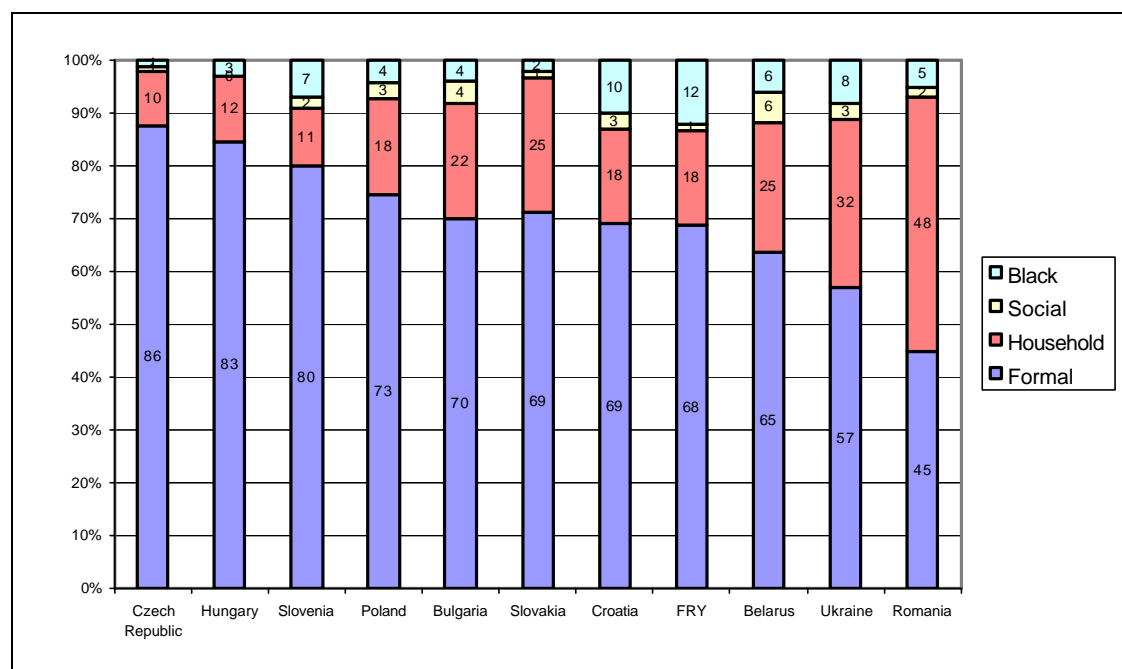
² Question wording: " Which activity on this card is the most important for the standard of living of you and your family? Categories of response: *Growing own food/ repairing house/ what we get as favours/what we get with help of friends, relatives/ Getting foreign money/Earnings of second job/incidental earnings/earnings of regular job/pension, unemployment benefit/benefits at place of work/don't know*". The question was repeated for the second most important for the standard of living.

³ The question wording changed between NDB 1 (1991) and subsequent years. In NDB 1 it did not include pension or state benefits as part of the formal economy. It did not include house repair as part of the household economy and the questions about the social economy were worded "help from friends/ free help from connections and for the black economy they were worded "Money from connections/ foreign currency dealing" the foreign currency question was not included in subsequent NDBs.

money source for their households and then what was the second most important, giving us different ways to measure this factor.

The relative importance of each sector for 1998 can be seen in the Figure 8 using the question “What is the most important source of income for your household”. In each country apart from Romania, the formal economy was the most important source of earnings: in each country, it was the main source of income for more than 50 percent of families. The household economy was the next most important source and in general: the less the reliance on the formal economy, the more is the reliance on the household economy as source of income in each country. In Romania, the household economy was the most important source of income. The social economy was relatively negligible as a main source of income. The cash economy, however, did show some variations. Although low in all countries as a main source of income, in Croatia and FRY it was the highest, reaching more than 10 percent of households in those countries.

Figure 8: Most important economy for the household, 1998



If we now turn to how this has changed over time using Tables 5 to 8, we can see that in terms of the *formal economy* there are four main clusters of countries. In the Czech Republic, Hungary, and Slovenia, it is high (more than 80 percent of households in 1998) and has generally been increasing in importance over time. In the second group of countries (Slovakia and Poland), it has fluctuated and even declined, standing at around 70 percent in 1998. In the third group of countries (Bulgaria, Belarus, Croatia, Ukraine, Romania) it is low and fluctuating. Although in some of these dependence on the formal economy has declined, in some raised, there does not seem to be a stable pattern in those countries.

The *household economy* is very important in Romania, Ukraine, Belarus, and Slovakia where its importance has generally increased. It is also important in Bulgaria, Belarus, and Poland. In the Czech Republic, Slovenia, and Hungary, its importance has declined as the importance of the formal economy has grown. In Croatia and FRY, there is not much reliance on the household economy. Thus, we could say that the rise of the formal and decline of the household economy are successfully linked in some of the most successful transforming economies: Czech Republic, Slovenia, and Hungary. Romania, where the household economy is most important is among the poorest transforming countries in our sample.

There is more variation in the *social economy*, with its importance having increased since 1992 and declined again since 1996 (with the exception of Ukraine). The importance of the *cash economy* has generally declined in most countries, but remains very important in the countries of the former Yugoslavia, perhaps because of the tradition of guest working. In Belarus, Ukraine, and Romania, the cash economy was more important in the early 1990s than they are now. This would tend to indicate that increasing economic crisis (inability to live from the formal economy) pushes people more into the *cash economy* and the *household economy*. The *cash economy*, by contrast is not a substitute for problems in the formal economy: it has declined in precisely those countries, which have had the most problems. This is also confirmed in the discussion on social capital (see later).

Table 5: Changes in the Formal economy (percent of households naming it as the most important source of household income)

Country	1991	1992	1994	1996	1998
NDB mean	65	68	67	70	68
Czech Republic	72	80	82	88	85
Hungary	66	80	77	80	83
Slovenia	66	71	64	59	80
Slovakia	73	78	80	82	70
Poland	66	82	82	67	70
Bulgaria	53	67	67	63	69
Belarus		71	59	78	64
Ukraine		26	52	58	57
Romania	65	61	55	59	46
Croatia		69	66	71	69
FRY					68

(Percent change is measured only between 1992 and 1998 because of the differences in recording data in 1991).

Table 6: Changes in the household economy (percent of households naming this as the most important source of household income)

	1991	1992	1994	1996	1998
NDB mean	26	22	22	21	22
Czech Republic	21	17	15	9	11
Hungary	27	16	19	15	14
Slovenia	30	25	33	37	11
Slovakia	21	20	15	14	25
Poland	22	13	12	21	21
Bulgaria	33	24	22	28	24
Belarus		14	26	12	26
Ukraine		59	30	30	33
Romania	26	26	29	33	47
Croatia		7	13	11	18
FRY					16

(Percent change is measured only between 1992 and 1998 because of the differences in recording data in 1991).

Table 7: Changes in the social economy (percent of households naming this as the most important source of household income)

	1991	1992	1994	1996	1998
NDB mean	3	3	4	3	3
Czech Republic	1	1	1	1	2
Hungary	3	1	1	2	1
Slovenia	2	1	1	1	2
Slovakia	1	1	2	1	1
Poland	5	2	3	5	5
Bulgaria	6	2	3	4	4
Belarus		4	5	3	4
Ukraine		10	8	4	3
Romania	3	3	5	5	2
Croatia		3	5	5	2
FRY					2

(Percent change is measured only between 1992 and 1998 because of the differences in recording data in 1991).

Table 8: Changes in the cash economy (percent of households naming this as the most important source of household income)

	1991	1992	1994	1996	1998
NDB mean	6	7	7	6	6
Czech Republic	6	7	2	2	2
Hungary	4	2	3	4	3
Slovenia	3	3	3	4	7
Slovakia	5	2	3	3	4
Poland	8	3	4	7	5
Bulgaria	8	7	9	5	4
Belarus		11	10	7	6
Ukraine		5	10	7	8
Romania	6	10	11	3	5
Croatia		21	17	14	10
FRY					14

(Percent change is measured only between 1992 and 1998 because of the differences in recording data in 1991).

4.2 What is the structure of the informal economy?

As we saw from the work of Piirainen (1997) and Rose and Haerpfer (1992), households tend to use a variety of economies in different combinations. How were these economies combined in our sample? For this purpose, we combined the source of income that was said by the respondents to be the most important source with that which was the second most important source. The results are set out in Table 9 below.

Using this new formulation, we can see from this table that most households combine more than one economy. The numbers who are only in the formal economy are about 10 percent (although this appears to be rising). The numbers only in the household or only in the social or cash economy are negligible. Large numbers (about one third of households) combine the formal with the household economy or the formal with the cash economy (about one in seven households). Around ten percent also combine the household and the formal economy in reverse order. Even where the formal economy is very important, it is usually supplemented by some other kind of economy. In Eastern and Central Europe, the portfolio of economies is the norm rather than the exception.

Table 9: Combinations of formal and informal economies

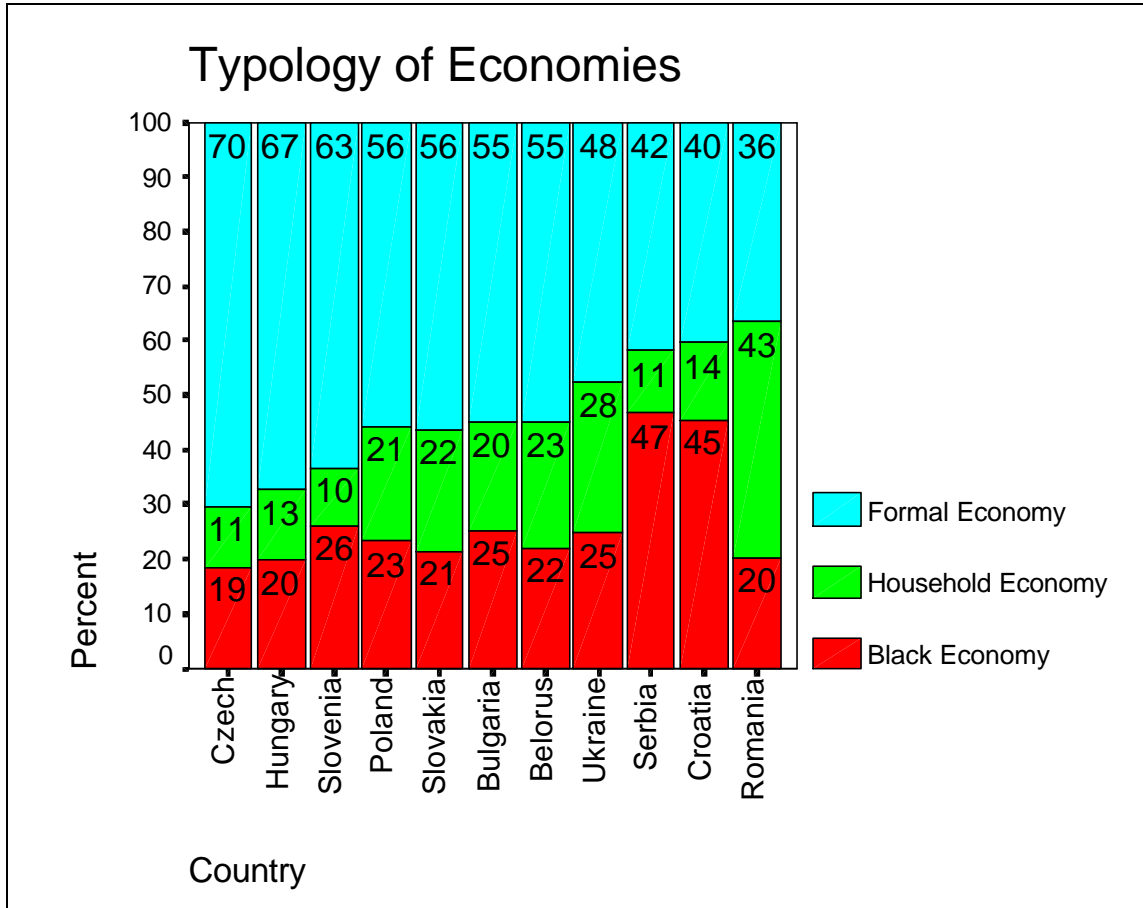
Combinations	1991	1992	1994	1996	1998	Building of new* grouping variables
Household and household	0,2	4	5	5	6	Household economy
Household and Social	6	3	2	3	2	Household economy
Household and Cash	6	3	3	3	4	Black/Cash economy
Household and Formal	15	11	10	11	11	Household economy
Social and Household	1	1	1	1	1	Household economy
Social and Social	0,4	0,4	1	0,3	0,4	Household economy
Social and Cash	1	1	1	1	1	Black or Cash economy
Social and Formal	1	1	1	1	1	Household economy
Cash and Household	1	2	2	1	2	Black/Cash economy
Cash and Social	1	1	1	1	1	Black/Cash economy
Cash and Cash	1	1	2	1	1	Black/Cash economy
Cash and Formal	2	3	3	3	2	Black/Cash economy
Formal and Household	32	36	33	36	32	Formal economy
Formal and Social	11	8	9	11	8	Formal economy
Formal and Cash	14	13	14	13	16	Black/Cash economy
Formal and Formal	8	11	11	10	13	Formal economy

* See text below

Another result from this table is that we can say that *around 90 percent of the households* are active in informal economies as either the most important or second most important sources of income, although, this seems to be declining very slightly. In addition, we can conclude that around *one third* of households are *primarily* dependent upon the informal economy (either the household, social or cash forms) in Central and Eastern Europe. The stability of these scores over the period surveyed, gives us some confidence in the accuracy of this estimation using these sources and methods.

In order to use most of the information for further analyses we decided to combine the first and the second most important sources of income in such a way that it allows us to use more information, as compared to when we use only one of these variables. From the combinations in table 9, we built new grouping variables (dummies) that looked reasonable for the combinations, which the respondents used (see table 9). Further, we pooled the categories *household economy* and *social economy* because of the small number of cases in the *social economy* category. Thus in the following analyses we used only three types of economies: **household, informal, and formal**.

Figure 9: Combination of first and second most important economy for the household 1998



As we can see from the figure above, in 1998 the highest percentage of *black or cash economy* is found in Serbia (47%) and Croatia (45%). The *cash economy* is even more important for the households' living standards in these two countries than the *formal economy*. This result is not surprising considering the situation that the economy of these countries was affected by war and typical post-war developments such as a flourishing black market. The dominant type of economy for the Romanian respondents is the *household and social economy* (44%). The importance of the *formal economy* can be observed in the Eastern Central European's most developed countries: Czech Republic (70%), Hungary (67%), and Slovenia (63%). These results correspond to the findings of the analyses mentioned above, where we used only the first variable (most important for the standard of living).

4.3 Social Characteristics of Households in Different Economies

Now let us consider the social characteristics of the households who were mostly in one or the other economy.

4.3a Economic activity and the participation in different economies

Table 10 shows how various kinds of economic activities are related to the different economies. If we start with the social characteristics of the households in the *black economy*, we can conclude that 26% of the respondents in this category were unemployed and in 17% of cases, another member of the family was unemployed. In general, if people had experienced unemployment, they were more likely to be found in the black or the household economies. At the same time, a high percentage of the participants in the *black economy* (57%) were **not** unemployed either. To be precise, we can find in this group both employed and unemployed. Thus, unemployment is associated with participation in informal economies but it is not the single factor. Further, the majority of the respondents in the *cash economy* were long-term unemployed (63 percent of this group have been unemployed between 27 and 52 weeks). Concerning their current employment situation, 43 percent of the respondents in the *black economy* were employed full time, 15 percent were housewives or students, and 10 percent were unemployed without any benefits. With respect to the type of employer, the majority of the *black economy* group was those from state enterprises (30%) and those who were working new private enterprises (28%). Further, 21 percent were public servants and 16 percent worked in privatised enterprises.

However, unemployment did not seem to make so much difference to the participation in the *household and social economy*. The unemployed were only slightly more likely to be involved in self-provisioning. However, being economically inactive in other ways was important for participation in the household and social economies: 28 percent were pensioners, with 34 percent employed full time and with 12 percent housewives and students. People in work associated with farms have an important foothold in the household production sector.

Table 10: Economic activity and different economies (1998)*

Economic Activity Factors	Formal	Household/Social	Black
Unemployment (n=10 531) Cramer's V =.106 p<.000			
Unemployed self	13	20	26
Other in family	16	16	17
No unemployment	71	64	57
Number of weeks being unemployed (n=3 563) Eta =.053; Cramer's V =.053 p<.031			
1-3 weeks	2	3	3
4 weeks	4	2	3
5-6 weeks	4	5	4
7-12 weeks	12	12	11
13-26 weeks	19	20	17
27-52 weeks	59	58	63
Economic Activity (n=10 598) Cramer's V=.205 p<000			
Employed full time	46	34	43
Employed part time	3	3	6
Self employed	4	4	6
Pensioner employed	2	2	4
Pensioner	28	28	8
Unemployed no benefit	3	7	10
Unemployed with benefit	3	5	5
Other benefit	4	5	3
Housewife/student	7	12	15
Employment sector (n=5 235) Cramer's V=.120 p<000			
Public servant, Government agency	20	19	21
State enterprise	36	34	30
Privatised enterprise	18	18	16
New private	20	15	28
Collective farm	5	8	3
Independent farmer	1	6	2

* 100% are summed up within columns for every factor

Being employed full time and in state enterprises decreases participation in all alternative economies, although part time employment is associated with the cash economy. Pensioners are most likely found in the *formal* or the *household* economies. Those in new private enterprises are polarized between the *formal* and the *cash* economy.

4.3b Poverty, wealth and different economies

Table 11 shows that the poorest people are those dependent upon the *household* economy, whilst the wealthiest sections of the population are polarized between the *formal* and *cash* economies. Wealthy people (fourth quartile) are not very likely to be active in the household economy. The same is reflected in our scale of deprivation⁴. Those respondents, who are most likely to be active **mainly** in the *formal* or the *cash* economies, are the least deprived. However, the household economy on this table seems to be a way of preventing some poorer households from becoming very deprived.

Table 11: Poverty, wealth, and different economies (1998)*

	Formal	Household/Social	Black
Household Income Quartile (n=7 606)			
Cramer's V =.100 p<000			
First quartile	22	32	18
Second quartile	25	25	22
Third quartile	26	24	27
Fourth quartile	27	19	33
Destitution scale (n=10 642)			
Cramer's V=.094 p<000			
Never deprived	44	36	45
1	10	8	10
2	11	11	11
3	9	12	10
4	7	7	6
5	6	6	5
6	6	9	6
7	3	3	3
8	2	4	2
9 Often deprived	2	4	2

⁴Question wording: Sometimes people have to do without things that people usually have. In the past year has your household had to do without any of the following: food, heating and electricity, clothes you really need: Often, sometimes, rarely, never. The scale was constructed by combining these responses.

	Formal	Household/Social	Black
Number of consumer goods (n=9 732)			
Cramer's V=.127 p<000			
None	15	24	11
1	31	34	26
2	26	24	26
3	22	15	27
All four	6	3	10

* 100% are summed up within columns for every factor

A similar pattern is found if we look at the number of consumer goods possessed by the household. Those dependent upon the *household economy* have the least consumer goods, whilst those dependent upon the *formal* and the *cash* economy had the largest number of consumer goods - but here the *cash* economy overtook the formal economy in importance. We might assume therefore that whilst the formal economy was used for making a living, the cash economy was a way of raising living standards by acquiring consumer goods.

4.3c Demographic characteristics and typology of economies

The household and social economies were important for older people, as was the formal economy (presumably because many of them rely on their pensions). However, younger people were more active in the black economy, especially those between 20 and 40 years of age (Table 12). People in the black economy were also more likely to be single. The black economy was something found more often in urban areas, whilst the household economy was more often found in rural areas. Those in the black economy were likely to have a higher education, whilst those in the household and social economies were not well educated.

Those in the black economy were more likely to want to go abroad and this may reflect the fact that they were those with the most prospects, most enterprise and most favourable demographic characteristics but it might also reflect the fact that many people in Central and Eastern Europe work in another country on a temporary basis. This is an important way of supplementing incomes (Wallace and Stola 2001).

Concerning gender, the majority in the *cash* economy were **males** (54%); **females** were more often to find in the *household* (57%) and *formal* economy (56%).

Table 12: Demographic characteristics and different economies (1998)*

	Formal	Household/Social	Black
Plans to go abroad (n=8 692)			
Cramer's V=.166 p<000			
Plan to go abroad	36	39	55
Not planning to go abroad	64	61	45
Age (n=10 623)			
Eta=.187, Cramer's V=.141 p<000			
18-19	4	5	7
20-29	18	17	27
30-39	17	17	22
40-49	19	19	20
50-59	16	15	14
60 plus	26	27	10
Marital status (n=10 587)			
Cramer's V=.089 p<000			
Single	18	18	27
Married	67	67	65
Divorced	7	5	5
Widowed	8	10	3
Town Size (n=9 732)			
Eta=.034, Cramer's V=.143 p<000			
<5000	37	57	30
<20000	13	10	14
<100000	19	14	20
>100 000	31	19	36
Number of Children (n=8 747)			
Eta=.062, Cramer's V=.048 p<000			
None	60	59	52
1	22	21	25
2	15	16	18
3 or more	3	4	5
Education (n=10 621)			
Eta=.055, Cramer's V=.111 p<000			
Elementary	31	42	25
Vocational	25	25	22
Secondary	32	27	38
University	12	6	15
Number of household members (n=7 769)			
Eta=.088, Cramer's V=.089 p<000			
1	12	12	8
2	23	26	17
3	24	21	26
4	26	22	32
5 and more	15	19	17

* 100% are summed up within columns for every factor

4.4 Conclusions: patterns of participation in the different economies

1. Most people are active in the informal economy although this is declining in the most successful transition countries. Almost 90 percent of all post-Communist households are involved in different degrees in the informal, which is a sign that participation in some form of informal economy is a necessary condition for the economic survival of household in economic transition.

2. In rural areas, the *household economy* is more important because of the availability of land, which is a precondition of that type of household behaviour. It is also where the older respondents are found and also poorer households. We could assume that this activity is also a way of helping poor and elderly people to survive. These are the most autonomous households, to a large extent outside of the money economy. In Romania, the household economy is of particular importance. Some have termed this the “naturalisation” of the economy in Bulgaria and Romania.

3. The *cash economy* and the *formal economy* are the most likely way to build up wealth at the household level. This is where the enterprising families are found. These are the most integrated households and so it seems that the *cash economy* is also a form of integration linked to the formal economy. The *cash economy* however, is particularly prevalent in particular countries, such as Croatia and Serbia. Younger people are more active in the black economy and those who are planning to go abroad. It seems that the cash, monetized informal economy is particularly important for improving the consumption level of the household, but is not particularly associated with poor households. It is for the better off.

4. We need to distinguish between different informal economies in order to understand their role. Here household self-provisioning has a very different role and a different set of participants than the cash or black economy.

Here we can return to H1.

H1 *That there is a changing relationship between formal and informal sectors in Central and Eastern Europe. More specifically, as the formal state sector declines, so the informal sector*

We can see that it is indeed the case that the more people there are in the formal economy, the less in the informal economies. However, sometimes it is the household economy that is most important in taking over and under some circumstances, the black economy.

We can also go back to H3.

H4: *That informal economic activity is a form of survival for poor families. OR that informal economic activity is a form of entrepreneurial enrichment for successful and aspiring families.*

Here we see that for poorer families the household economy is most important. For wealthy families, under certain circumstances, the black economy is one way of increasing family prosperity. The cash economy is particularly prevalent in particular countries, such as Croatia, FRY and Ukraine. However, it does not seem to be such an important option for poorer families, which have high barriers to access the cash economy. Hence both of these alternative hypotheses are correct – but for different social groups.

Part 5 Subjective economic well-being and participation in the informal economies

Due to a variety of theories and measures of the concept **well-being**, comparisons of economic well-being across post communist countries are often not reliable or at least difficult to do. In this chapter, we analyse the factors that predict household's economic well-being. Is there a link between subjective economic well-being and participation in different economies?

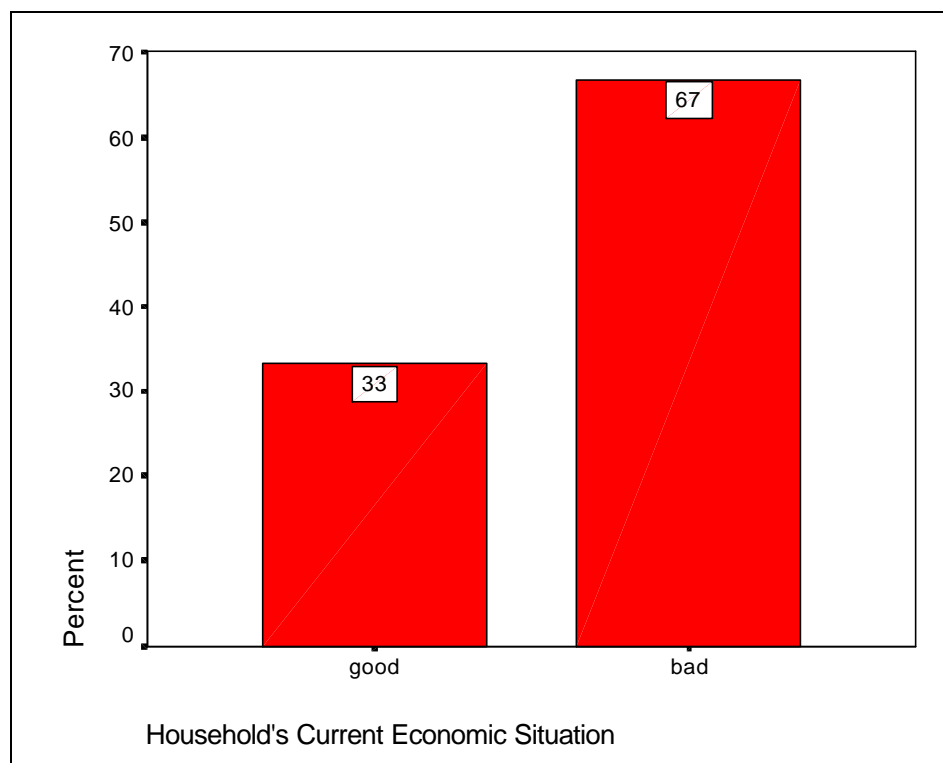
It is important to notice that we use subjective and not objective measures as indicators for *economic well-being*. The method of analyses used is multiple OLS regression with *subjective economic well-being* as a dependent variable and variables such as *participation in different economies*, *age*, *income*, *employment status* etc. as predictors. An additive index for subjective economic well-being was built from three variables, which allow the respondents to evaluate their current economic situation: *current economic family situation*⁵; *getting by*⁶ and *destitution scale*⁷. Before we report the results of the regression model, we look at the mean distribution of the first indicator.

Figure 10 shows us that about two-thirds of the households in 1998 were still dissatisfied with their present economic situation. How does this differ between countries?

⁵ Question Wording: *As for your own household/family, how do you rate its economic situation today?* (1=very satisfactory; 4=very unsatisfactory)

⁶ Question Wording: *In the past year, has your family:* 1-saved money, 2-just got by, 3-spent some savings, 4-borrowed money and spent savings

⁷ Question Wording: *Some people have to do without things that people usually have. In the past year has your household had to do without any of the following (food, electricity, clothes you really need):* (1=often; 4=never)

Figure 10: Current economic family situation in Percent (1998, all 11 countries)*

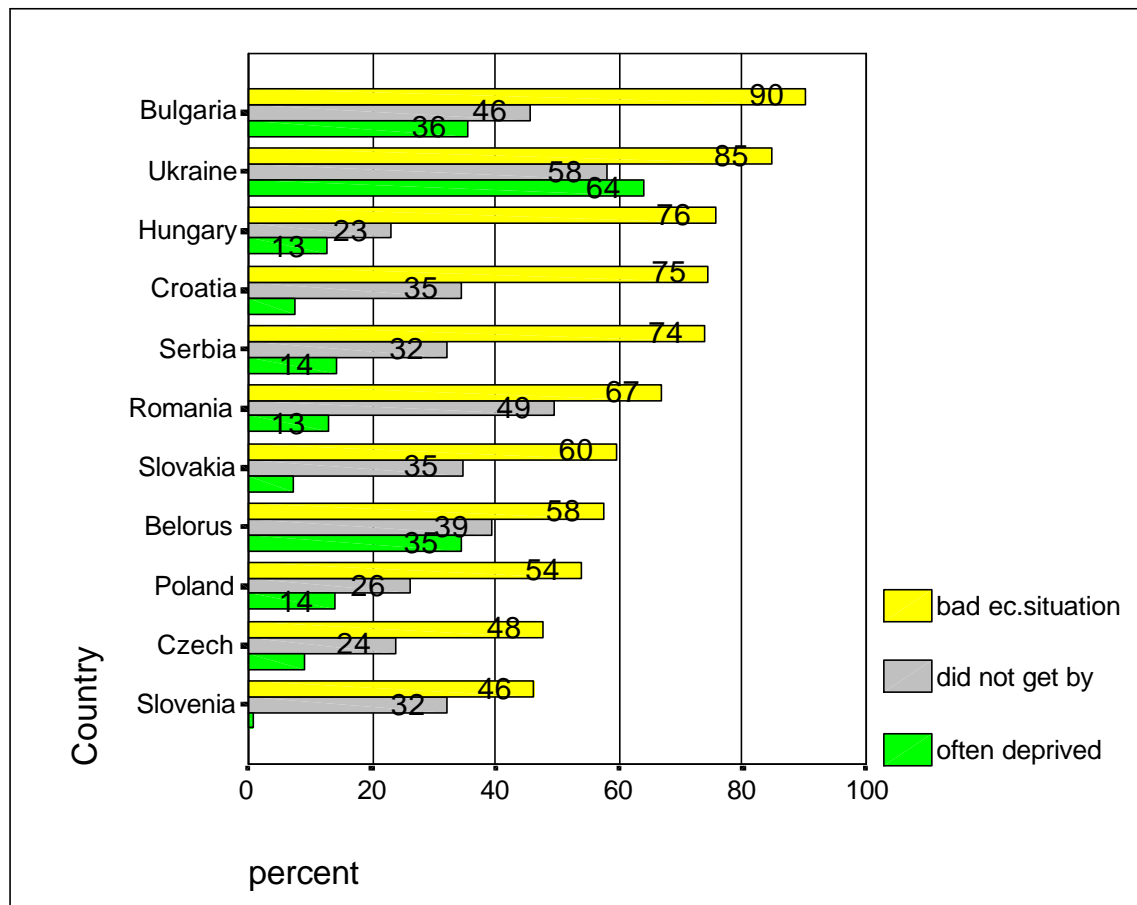
* The four points scale was recoded into a variable with only two categories: very satisfactory & fairly satisfactory=good, not very satisfactory & very unsatisfactory=bad

Figure 11 illustrates the findings of the economic well-being indicators in all 11 countries. The highest level of dissatisfaction with the current economic family situation is found in Bulgaria and Ukraine: 90% of the Bulgarian households and 85% of the Ukrainian in 1998 were dissatisfied economically. In addition, the levels of deprivation in these two countries are relatively high. More than half of the Ukrainian households (58%) and nearly half (46%) of the Bulgarian report that during the past year their family did not get by, i.e. they spent savings and borrowed money. Altogether, 64 percent of households in Ukraine and 36 percent of households in Bulgaria described themselves as often deprived. Only Belarus could share to some extent the findings for Ukraine and Bulgaria. These results are reflection of the stagnation (politically and economically) being observed in these countries at least until 1997.

Getting by and the absence of deprivation are important indicators for welfare but not sufficient to produce economic satisfaction. For example, a relatively high percentage of the households in Hungary (76%), in Poland (54%), and in The Czech Republic (48%) rate their economic situation as bad, but the percent coefficients for deprivation and getting by are relatively low. This trend is also observable for Croatia and Serbia: about 75% of the households in these countries evaluate their current economic situation as bad, but at the

same time they rank low on the *deprivation* and *getting by* scale. Thus, it is not just their objective situation but perhaps their situation in comparison with something else that we might need to take into account. It is likely, for example, that those in Poland, Hungary and the Czech Republic have relatively high expectations because they compare themselves to their Western neighbours rather than to their Eastern neighbours. The same could be said for Croatia and Serbia, where living standards have sunk due to the after effects of war.

Figure 11: Current economic family situation, Deprivation and Getting by in Percent (NDB, 1998)*



* The four points scales were recoded into variables with two categories. Only the percents for the second (negative) categories are displayed here

Further, we calculated an additive index for *household's economic well-being* using the three variables explained above and entered the index as dependent variable in a multiple regression model. The possible predictors of economic well-being were entered into the model in 4 blocks in order to examine which of them contributes substantially to the model's ability to predict the outcome (subjective economic well-being). Thus, in the first step of the analyses only *participation in the black* and *household economy* are considered as predictors, in the second step the variables from step one plus the independent variables from block 2 are considered and so forth. The results are displayed in Table 13.

The regression analysis indicates that participation in *black* or *household/social* economy has little effect on the subjective economic well-being. For the variable *household economy* the standardized regression coefficient (Beta= .044) is statistically significant but rather small. It could be interpreted as indication of the economic deprivation of the households involved primarily in household economy compared to those in the formal sector. If we look at the R square coefficient for the first Block we can see that participation in the informal sector of the economy can explain only about 1% of the variance in economic well-being.

The second group of variables (2nd block) seems to have reasonably strong predictive power. As a whole, this predictor group explains about 25% (Adj. R square= .253) of the variance in economic well-being. The strongest effect shows the variable *number of consumer goods* that a household owns; predictably, the households who possess more consumer goods, such as a colour TV, a car etc. are significantly more economically satisfied. Citizens who do not have someone to borrow money from see their situation as poor, from which we might hypothesise that social support is important for maintaining a sense of well-being. As expected, unemployment plays a significant role in predicting economic well-being: those who are unemployed also perceive their economic well-being as poor (Beta= -.139).

Social demographic differentiations have a significant but modest effect in predicting respondent's evaluation of the family's economic conditions. The contribution of this variable group for explaining the variance of the dependent variable is 2.7% (R Square Change=.027): elderly people, women, families with more children, bigger families and predominantly respondents in rural areas are those, who feel disadvantaged in their economic welfare.

Household income classes, as the only predictor in the last block, accounts for 1.6% of the variation in economic well-being: as expected, respondents, who have higher incomes are also significantly more satisfied with their economic situation.⁸ The explained variance in economic well-being by the regression model as a whole is round 30% (Adj. R Square=.295).

⁸ There is missing information for the *household income quartile* in The Czech Republic and Hungary

Table 13: Regression Analyses of participation in informal economies on subjective economic well-being (all 11 countries)

	PREDICTORS	Beta	Adjusted R square	R Square Change
1. Block	Households in black economy* Households in household economy*	n.sig. .044	.011	.011
2. Block	Having someone to borrow money from N of Consumer goods: colour TV, VCR, Car etc. Being unemployed last year	.187 -.317 -.139	.253	.242
3. Block	Town size Age Gender N of Children Education N of Households members	.132 .036 .040 .117 n.sig. .049	.279	.027
4. Block	Household Income Quartile	-.159	.295	.016

Source: NDB 1998

* Dummy variables with households in formal economy as reference category

Conclusions: consequences of activities in different economies for subjective well-being

1. Here we find that the informal economies are to some extent directly associated with a sense of economic well-being. To begin with, economic well-being was not always associated with not being deprived: in Hungary, Poland and the Czech Republic as well as Croatia and Serbia people felt badly off even though they were relatively well off. This raises the question: to whom are they comparing themselves and what aspirations do they hold? We can assume that economic aspirations in these countries were higher than in other countries and the source of comparison was either the wealthier neighbouring countries to the West or the more comfortable situation in the past.

Even income made only a small impact on subjective economic well-being.

2. However, we do find some factors are associated with subjective well-being. First, having someone from whom to borrow money was important and we could take this as an indicator of informal social support. Secondly, possessing more consumer goods was important for subjective well-being. In this way, we could say that the cash economy was indirectly related to economic well-being because it was the way in which such things were accumulated and is also associated with having a second job.

3. Here we can turn to one of our hypotheses: that increasing informalisation is associated with loss of subjective well-being. This does not seem to be directly the case because participation in different economies made little difference to a sense of well-being. However,

subjective well-being is associated with the number of consumer goods and we know already that these are augmented through the cash economy. So there is perhaps an indirect link between a sense of economic well-being and participation in informal economies.

Still we can conclude that economic welfare is found as well by households in the formal as in the cash economy and privation by households in the household economy. It is a sign that the household sector remains an important area of production for primary needs in the household and cash economy could be seen as a source of new wealth.

Part 6 Trust, corruption and informal economies

The increasing informalisation of some countries could lead to a loss of trust in public institutions and in the public realm generally. We have tested this by looking at a range of questions about trust, dividing them between an index for trust in political institutions and an index for trust in social institutions. We looked to see what effect the participation in different economies would have on these two indexes. Finally, we looked at perceptions of corruption to see if informalisation would lead to an increase in perceptions of corruption (see Wallace and Haerpfer 2000).

If we consider the correlation in the correlation table 14 below, we can see that perception of corruption is positively associated with participation in the cash economy but negatively with participation in the household or social economies. That is, respondents, who are involved in the household economy, believe that the corruption level compared to the level during communism increased. If respondents perceive corruption in 1998 as decreasing compared to communist regime, they tend to trust political and social institutions ($r = .231$ respectively $r = .281$).

As expected, trust in social institutions is negatively associated with participation in the cash economy, as is trust in political institutions. However, participation in the formal economy is associated with more trust in social institutions and especially in political institutions. We could say therefore, that participation in the black or cash economy leads to an erosion of trust, whilst participation in the formal economy leads to higher levels of trust.

Table 14: Pearson Correlations between perceived level of corruption, participation in different economies and trust in political and social institutions (NDB, 1998)

	Formal economy	Household/Social economy	Cash economy	Corruption now compared to Communist regime ⁹
Corruption now compared to Communist regime	n.s	-.033**	.029**	
Social trust (Trust in social institutions)	.026**	.020*	-.047**	.231**
Political trust (Trust in political institutions)	.061**	n.s	-.066**	.281**

** Correlation is significant at 0.01 level (2-tailed)

* Correlation is significant at 0.05 level (2-tailed)

⁹ 5-point scale with 1=increased a lot and 5=decreased a lot

As a subsequent step of this analysis, we looked for a possible relationship between informalisation and trust in public realm, i.e. which factors were most important in predicting trust in political and social institutions. The additive indices for trust in political and social institutions were used as dependent variables in two separate regression models (see table 15 and table 16). We used the same predictors for both models and if we look at both tables, we can see that these predictors have more explanative power for trust in political institutions than for trust in social institutions. Because we were mainly interested in the effects of *participation in different economies* and *perceived level of corruption*, we first concentrate on these results.

In Table 14 we can see that we have a relatively high level of explained variance for trust in political institutions (Adj. R Square=.269 or about 27%). Perceptions of corruption were rather important for explaining trust in political institutions. This variable alone accounts for round 8% of the variance in political trust. Participation in black economy has significant but very small effect whilst faith in the government for solving the economic problems shows one of the highest effects in the model (Beta= .228): those who think that it would take years before the government solves problems do not trust political institutions. Hence, lack of political trust was associated with lack of confidence in politicians to run the economy. However, the rating of the current economy shows the most important effect (Beta=.249). It was positively associated with political trust – if people think that the politicians are doing a good job on the economy, they trust political institutions more.

If we consider the subjective economic well-being of the households we can conclude: if respondents feel economically deprived they tend to mistrust political institutions. Another factor that plays substantial role are the expectations about the future economic situation: as expected, those who are skeptic usually do not trust public realm (Beta= -.115).

Socio-demographic characteristics play significant but moderate role. They account for only 2.2% of the explained variance in the variable political trust. At least, elderly people tend to trust government and president more than respondents with higher education and respondents who live in bigger cities.

Table 15: Regression Analyses of participation in different economies, perceived corruption level and economic well being on trust in political institutions¹⁰ (all 11 countries)

	PREDICTORS	Beta	Adjusted R square	R Square Change
1. Block	Households in black economy Households in household economy	.033 n.s.	.003	.003
2. Block	Corruption now, compared to communist regime	.163	.084	.081
3. Block	Subjective Economic Well-Being Current economic situation compared to 5 years ago Economic situation in 5 years compared to now	- .046 .029 -.115	138	.054
4. Block	Time before content with living standard	.037		
	Time before government solves problems	.228		
	Current economy rating	.249	.248	.111
5. Block	Age	.131		
	Town size	.041		
	Education	.038	.269	.022

Source: NDB 1998

¹⁰ Trust in political institutions is an additive index built from the following variables: trust in prime minister, trust in the president, and trust in government. Higher scores mean great trust

Considering trust in social institutions (see table 16), we found that, our model accounts for about 17% (Adj. R Square= .166) of the variance. The importance of the factor subjective economic well-being (Beta= -.168) is considerable. If things were going badly for the family, they lost trust in social institutions such as police, courts or trade unions.

Also in this regression model we find a substantial effect of the variable *faith in the government solving the economic problems quickly* – this was negatively associated with trust in social institutions. Perceptions of corruption were also important by predicting trust in social institutions.

For both models involvement in *black economy* has a significant but very moderate effect: Households, who are involved primarily in the black economy do not trust as well political as social institutions, if compared to households in the formal economy.

Table 16: Regression Analyses of participation in different economies, perceived corruption level, and economic well being on trust in social institutions¹¹ (all 11 countries)

	PREDICTORS	Beta	Adjusted R square	R Square Change
1. Block	Households in black economy Households in household economy	-.039 n.s.	.002	.002
2. Block	Corruption now, compared to communist regime	.140	.059	.057
3. Block	Subjective Economic Well-Being Current economic situation compared to 5 years ago Economic situation in 5 years compared to now	-.168 .054 -.067	.124	.066
4. Block	Time before content with living standard Time before government solves problems Current economy rating	n.s. -.156 .102	.156	.033
5. Block	Age Town size Education	n.s. -.046 -.074	.166	.010

Source: NDB 1998

¹¹ Trust in social institutions is an additive index built from the variables: trust in courts, trust in police, trust in civil servants, and trust in trade unions: Higher scores mean great trust

Conclusions

- 1) We could say that our Hypothesis 3 – that participation in the cash economy was associated with lack of confidence in the public realm - is to some extent confirmed. Perceptions of corruption and lack of trust in political and social institutions were all correlated with participation in the black economy.
- 2) Lack of trust in political institutions was more easily explained, since it was associated with perceived corruption, economic well-being and the lack of confidence in politicians to manage the economy.
- 3) Lack of trust in social institutions was also to some extent associated with lack of economic confidence in the government, but also with subjective economic well-being and participation in the cash economy.

Part 7 Multivariate Model of Participation in Different Economies

As we have seen in the analysis until now, numerous households continue to rely on a multiplicity of economies, such as non-monetized production within the household and second jobs that pay cash and so on. These households cope by managing resources from multiple economies. In this part of the paper, we try to predict the probability of belonging to the *informal economy* sector given series of independent variables. The method of analyses we use is multinomial logistic regression, since our outcome variable is a categorical one¹² and the predictor variables are continuous or categorical.¹³

Table 17 displays the results based on the whole sample. Since we are interested in the overall trends for all countries. The logistic regression model used here incorporates groups of independent variables (predictors), which were included into the equation simultaneously. The predictors include variables that deal with respondent's economic activity and the economic status of the household, socio-demographic characteristics of the respondents, some attitudinal data and the country codes. Further, it is important to mention that not all possible predictors were included in the model, since they were not available for every country (for instance: *town size*, *household income* or *number of households number*). To be precise, the following results are based only on the available data for all 11 countries. This has an essential implication by evaluating the model's overall fit.

In the first two columns (*black & household*) of Table 17, we show the parameters of a model when the *participation in the formal economy* is used as a **reference group**.¹⁴ Thus, the coefficients in the third column (*formal*) are used at the same time as an evaluation of the independent variables. Crucial to the interpretation of logistic regression is the value of **exp (B)**, which is an indicator of the change in the odds¹⁵ of being a participant in the *cash* or *household economy*, resulting from a unit change in the predictor.

A glance at table 17 brings us the relative importance of the different predictors. One of the essential factors in predicting the participation in the *cash (black) economy* is the **income**

¹² The dependent variable is *typology of economies* with 1=black economy, 2=household, 3=formal

¹³ The reason to use logistic regression is the violence of the linearity assumption (the relation between variables is linear in the usual regression models). When the outcome variable is dichotomous or categorical, this assumption is usually violated. (Field, 2000). In logistic regression, we predict the *probability* of the dependent variable occurring given known values of the independent variable.

¹⁴ When the dependent variable consists three categories, SPSS takes the last category of the dependent variable as reference category. The third column in the table was calculated after recoding the dependent variable with *household economy* as reference group. This was done in order to check for variables, which cannot divide the groups significantly.

¹⁵ The odds of an event occurring are defined here as the probability of "*participating in the cash economy*" divided by the probability of "*participating in the formal economy*"

source. Namely, the odds for *being an employed pensioner or unemployed without benefit* and being involved in the *cash economy* are **2.50** respectively **1.97 times** higher¹⁶ ($\exp(B)=2.498$ respectively 1.972) than for those being housewives or students (this category is used as a reference category). The odds of *being unemployed without benefit* and being involved in *household economy* increase by the factor 1.683 (=ca. by 68%). Further, if we consider the effect of the variable *subjective economic well-being* we can conclude that respondents, who feel **economically deprived** are more likely to participate in the *household economy* ($\exp B=1.048$) than those, who report they are better off. This is an indication that many respondents who are unemployed and without benefit from the state go back to an earlier form of subsistence economy or try to search for second jobs in the shadow economy and use these as a survival mechanism. For these families it could be a downward spiral of greater dependence on the informal economy encouraging a further retreat from the formal economy as families spend all their time growing vegetables. As we saw from some analyses above second jobs in East-Central Europe usually take place in the black sector of the economy, and earnings additional to those from the main formal employment are in general substantial for households' living standards. If we recollect the percentage of second job holding, we can see that 26% of the respondents in East-Central Europe report on having a second work next to their main employment (see table 18 in the appendix). If we consider the distribution between countries: 42% of the Slovenian respondents, the half of the Serbian respondents, and 40% of the Croatian record on having an additional job next to their formal employment. The percentage in the other countries varies between 14% in Bulgaria and 29% in Poland.

As next, we consider socio-demographic characteristics as possible predictors for involvement in the informal sector of the economy. *Gender* is a significant predictor for participation in the cash economy, even its effect is negligible: the odds of being **male** and **active** in the *cash sector* increase with 38% ($\exp B=1.38$) than the odds for the females. As we have already seen in the previous parts of this paper, the older people are more likely to be active in the *formal* or in the *household* economy. In this model, the effect of age is available for the formal economy ($\exp B= .911$). Respondents with completed **elementary** or **vocational** school are more likely to be active in the *household economy* ($\exp B=2.325$ respectively $\exp B=1.598$) compared to those who completed high school. Namely, less educated even do not have the chance to search for alternatives in the cash economy sector. They depend upon the household economy in order to supplement their livelihoods. Since higher educated are more likely to be found in the formal or black sectors of the economy, the black sector could be also seen as a seedbed for new enterprise. It represents new kinds of marked type activity, which can provide the capital for more formalized activities later on. It can be the place where more "middle class" aspirations are raised. This group

¹⁶ When $\exp(B) > 1$ the odds of event occurring increase, when $\exp(B) < 1$ the odds of event occurring decrease

possess more education and professional skills and therefore is in the so-called “dynamic” situation: they use the informal economy to create wealth.

This finding could be stressed if we add variables, which represent attitudes and opinions as predictors for participation in the *black economy*: Respondents who *prefer income by effort*, i.e. respondents who share individualistic values also being active in the *cash economy* increase compared to those who share collectivistic values (exp B= 1.099). Moreover, those who rate the socialist economy as negative are more likely to participate in the black sector of the economy than those who rate the previous economic system as positive.

This brings us to the question, how patriotism is related to involvement in the black economy. The odds of those who **do not prefer** their country to any other also being active in the cash economy increase compared to those who find their country worth to live in (exp B=1.087). Those who are **not proud of country** are more likely to participate in the *cash economy* or *formal economy* than those who do not feel attached to their country.

If we consider the effect of *the support of undemocratic alternatives*, we can conclude that *authoritarianism* is more likely to be found above participants in the formal (state) sector than in the informal economy. The odds of those who **disagree** with authoritarian rule also being involved in the *cash economy* **increase** (exp B=1.289), compared to those who prefer strong leader instead of democracy. This could again underline the notion that respondents involved in the cash economy generally support the political and economic reforms in their countries. However, some of the transfer to market reforms has taken place in the informal sector along with undermining of public morality.

In order to take into account possible context effects across countries we include the variable with the country codes in the model. As we have already seen in the analyses above, the distribution of the different types of economies varies across countries. The results from the logistic regression model confirm the findings from the descriptive analyses. Croatia and Serbia are more likely to be found in the cash economy, Romania in the household economy and for the most developed countries like Hungary, Slovenia, Czech Republic, and Poland the formal economy is the most important economic sector.

It is essential to notice once more that not all significant predictors were implied in this model since some were not available for all countries.

The evaluation of the multinomial logistic regression model in table 17 i.e. the models' predictive power could be assessed with **McFadden R²**- and **Nagelkerke R²**-values (included in the last two rows in the table), which are almost analogous values considering their interpretation. The interpretation of these measures is not identical with the R²-value in linear regression. The values used here are rather measures of how much the badness-of-fit improves because of the inclusion of the predictor variables. They provide a gauge of the

substantive significance of the model. Nevertheless, if we consider the less restrictive value **Nagelkerke R²**, we can interpret the result as meaning that the model can account for round 22% (.215) of the variance in *participation in different economies*. Roughly, a good deal of what could explain participation in the informal economy is still unknown. Yet, the analysis was useful for giving us an idea of what could be important for explaining this phenomenon in Central- and Eastern Europe.

Table 17: Predictors of Participation in Different Economies. A multinomial Logistic Regression Model (NDB 1998, all 11 countries)

Predictors	Black Economy (ref. cat. = formal ec.)	Household Economy (ref. cat. = formal ec.)	Formal Economy (ref. cat. = housh. ec.)
	Exp (B)	Exp (B)	Exp (B)
Income Source			
Employed full time	.542	.546	1.830
Employed part time	n.sig.	n.sig.	n.sig.
Pensioner employed	2.498	n.sig.	n.sig.
Self-employed	n.sig.	n.sig.	n.sig.
Pensioner	.246	.583	1.716
Unemployed with no benefit	1.972	1.683	.594
Unemployed with benefit	n.sig.	n.sig.	n.sig.
Other benefit	.506	n.sig.	n.sig.
Housewife/Student (ref. category)			
Subjective Economic Well-Being (index)	n.sig.	1.048	.955
Gender			
Male	1.380	n.sig.	n.sig.
Female (ref. category)			
Age	.911	n.sig.	n.sig.
Education			
Elementary	.762	2.325	.430
Vocational	.808	1.598	.626
Secondary	n.sig.	1.476	.677
University (ref. category)			
Better strong leader than elections (q24c)**	1.289	.894	n.sig.
Prefer Income by effort (q35c)	1.099	n.sig.	n.sig.
Being proud of country (q44)*	1.141	n.sig.	1.118
Prefer this country to any other (q56a)**	1.087	.919	1.088
Socialist Economy Rating			
negative	1.197	n.sig.	n.sig.
neutral	n.sig.	n.sig.	n.sig.
positive (ref. category)			
Bulgaria	n.sig.	.722	1.384
Czech Republic	.728	.373	2.684
Slovakia	n.sig.	n.sig.	n.sig.
Hungary	n.sig.	.362	2.759
Poland	n.sig.	.665	1.504
Romania	n.sig.	2.186	.457
Croatia	2.584	.701	1.426
Serbia	2.211	.569	1.759
Slovenia	n.sig.	.374	2.671
Belarus	n.sig.	n.sig.	n.sig.
Ukraine (ref.category)			
Nagelkerke R²	.215		
McFadden R²	.102		

*1=very proud; 4=not at all proud

**1=definitely agree; 5=definitely disagree

Conclusions: logistic regression model

The conclusions from the logistic regression model support to some extent those of the tables and the binary correlations presented earlier. However, they also point to some important differences in the predictive power of the used predictors.

- 1) For all countries **being unemployed** is an important predictor of participation in the informal economies. This is essential if we consider the fact that unemployment rates within East-Central Europe are quite high. The rise in unemployment and poverty makes not only demands on state resources but it leads to greater informalisation of the economy.
- 2) That informal economic activity is a form of survival for poor families and alternatively, that informal economic activity is a form of entrepreneurial enrichment for successful and aspiring families.
- 3) However, some of the transfer to market reforms has taken place in the cash sector of the economy along with internalising individualistic values.
- 4) Whilst we could say that in some countries there seems to be a polarisation between those involved mainly in the formal and those involved mainly in the informal economies (Serbia, Croatia and Romania) in other countries like The Czech Republic, Slovenia, Hungary, and Poland the formal economy is the most important economic sector.

However, the general work patterns of the household (or lack of it) was more important than other factors for predicting participation in informal economies. This implies that we have to see such participation as part of a household work strategy – that is as a way of combining the resources of different household members in different ways (Wallace forthcoming). In this respect there seems to be some evidence of the emergence of a divide between work-rich and work-poor households in terms of prospects, at least in some countries (see Pahl 1984).

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Methodological Appendix 1

For the longitudinal survey component an analysis of the New Democracies Barometer between 1992 and 1998 was carried out. This survey, organised by Dr. Christian Haerpfer and Professor Richard Rose, involved face to face interviews with a random survey of 1000 people in each country in the years 1992, 1994, 1996, 1998. In addition, we drew upon the World Values Survey for some questions, another face-to-face international survey conducted in two waves: 1990 and 1995-8. Dr. Haerpfer was also the principle investigator in one of these surveys of Hungary. These surveys enable us to compare variables across time and between countries in a standardised form.

New Democracies Barometer

Established national institutes regularly conducting nationwide representative surveys undertake the regular New Democracies Barometer (NDB) surveys. Until 1998 the Paul Lazarsfeld Society in Vienna co-ordinated two survey networks with Central and East European affiliates: Fessel GfK and MITROPA. The Centre merges the ASCII files into a multi-national SPSS system file for the Study of Public Policy in Strathclyde. In addition to using ten national languages for the fieldwork, English is the main language of communication.

All interviews are face-to-face, since limited telephone, ownership means that phone interviews are not a representative sample. The basic sampling procedure in each country follows the ESOMAR principles of a multi-stage, random probability sample, in which the population is stratified regionally and with regions according to urban/rural divisions and town size. One hundred or more primary sampling points (PSU) are drawn. Within each PSU individual respondents are chosen on the basis of standard random procedures in the region (see Annex of Central and Eastern Eurobarometer Brussels, European Commission DGX No.9, March, 1996).

Each national survey is checked for representativeness by gender, age, education, region, and town size. Where appropriate, weights are introduced to match the sample to the census. In no case do weights produce major changes in the sample composition or responses. In some countries, samples routinely include respondents from age 15 upwards. Where this happens, youthful respondents are excluded from the analysis; this reduces slightly responses analysed from the 52940 interviews. All the data reported here are for respondents aged 18 and upward. In Croatia and FRY, the war zones are excluded from the sample

NDB-I Autumn, 1991

Country	Institute, fieldwork 1991	N. interviews
Bulgaria	NAPOC, Sofia, December	1 002
Czechoslovakia*	GfK Prague, November-December	1 034
Hungary	GfK, Budapest, November	1 019
Poland	GfK Warsaw, October	1 193
Romania	IRSOP, Bucharest, December	1 000
Slovenia	Sociology Institute, Ljubljana, Feb-March 1992	1 049
Austria	IFES, Vienna, November	1 954
	TOTAL INTERVIEWS	8 251

*A single sample in what was then a single state; responses subdivided to report separate Czech and Slovak responses.

NDB-II Winter 1992/3

Country	Institute, fieldwork 1991	N. interviews
Belarus	Belarus Public Opinion, Minsk, 23Nov-1Dec	1 225
Bulgaria	Balkan British Social Surveys, Sofia, 5-14 Dec	1 164
Croatia	CEMA/Mitropa, Zagreb, December	1 000
Czech Republic	GfK Prague, November/March 2 waves*	1 408
Slovakia	GfK, Prague Nov/March: 2 waves*	625
Hungary	GfK, Budapest, 13-23 November	970
Poland	GfK Warsaw, 21 Nov-5 Dec	1 113
Romania	IRSOP, Bucharest, December	1 000
Slovenia	Sociology Institute, Ljubljana, Feb-March 1992	1 013
Ukraine	Ukrainian Academy of Sciences, Kiev, Dec	1 000
	TOTAL INTERVIEWS	10 518

*Two surveys were done in the former Czechoslovakia 10 Nov-7 Dec 1992, and 11 Feb-1 March 1993, following its break-up. Since the data showed no significant changes between waves, results are pooled for the Czech Republic and the Slovak Republic.

NDB-III Winter 1993/4

Country	Institute, fieldwork 1991	N. interviews
Belarus	Sociological Services, Minsk, 23Nov-1Dec	1 000
	GfK Minsk 5-27 Jan	1 067
Bulgaria	Balkan British Social Surveys, Sofia, 5-14 Dec	1 139
Croatia	CEMA/Mitropa, Zagreb, 15 Jan-15 Feb	1 000
Czech Republic	GfK Prague, 14.31 March	1 167
Slovakia	GfK, Prague 14-31 March	574
Hungary	GfK, Budapest, 19-29 November	1 060
Poland	GfK Warsaw, 26 Nov-3 Dec	1 057
Romania	IRSOP, Bucharest, 13-19 Jan	1 000
Slovenia	Sociology Institute, Ljubljana, 24 Mar-13 April	1 000
Ukraine	SOCIS-Gallup, Kiev 30 Nov-8 Dec	1 000
	TOTAL INTERVIEWS	11 087

NDB-IV Autumn 1995

Country	Institute, fieldwork 1991	N. interviews
Belarus	Sociological Services, Minsk, 18-27 Nov	1 000
Bulgaria	Balkan British Social Surveys, Sofia, 23-2 Nov	1 184
Croatia	CEMA/Mitropa, Zagreb, 13-27 Nov	1 000
Czech Republic	GfK Prague, 1-11 Dec	978
Slovakia	GfK, Prague 7 Nov-18 Dec	1 117
Hungary	GfK, Budapest, 20 Oct-8 November	1 067
Poland	GfK Warsaw, 25 Oct-7 Nov	1 057
Romania	GfK Romania 1-11 Dec	1 038
Slovenia	Sociology Institute, Ljubljana, 1-31 Nov	1 000
Ukraine	SOCIS-Gallup, Kiev 30 Nov-8 Dec	1 000
	TOTAL INTERVIEWS	10 441

NDB-V Winter/Spring 1998

Country	Institute, fieldwork 1991	N. interviews
Belarus	Sociological Services, Minsk, 4-28 Feb	1 000
Bulgaria	GfK Bulgaria, Sofia, 16-30 April	1 007
Croatia	Mitropa, Zagreb, 17-31 Mar	1 000
Czech Republic	GfK Prague, 17-27 April	1 017
Slovakia	KMG Bratislava 23 Mar-6 April	1 011
Hungary	GfK, Budapest, 27 Mar-3 April	1 017
Poland	GfK Warsaw, 27 Feb-4 Mar	1 141
Romania	CSOP, Bucharest, 7-28 April	1 241
Slovenia	PR+PM Maribor 7-30 April	1 000
Ukraine	SOCIS-Gallup, Kiev 30 March-8 April	1 161
F.R. Yugoslavia	Argument, Belgrade 7-19 Mar	1 000
Austria	IFES, Vienna, 28 Jan-23 Feb	1 048
	TOTAL INTERVIEWS	12 643

Appendix 2 Additional Tables

Table 18: Second job across countries

		second job					
COUNTRYR	Country		Frequency	Percent	Valid Percent	Cumulative Percent	
2	Bulgaria	Valid	.00 no	836	86,1	86,1	86,1
			1,00 yes	135	13,9	13,9	100,0
			Total	971	100,0	100,0	
3	Czech	Valid	.00 no	814	84,7	84,7	84,7
			1,00 yes	147	15,3	15,3	100,0
			Total	961	100,0	100,0	
4	Slovakia	Valid	.00 no	727	78,8	78,8	78,8
			1,00 yes	196	21,2	21,2	100,0
			Total	923	100,0	100,0	
5	Hungary	Valid	.00 no	818	84,1	84,1	84,1
			1,00 yes	155	15,9	15,9	100,0
			Total	973	100,0	100,0	
6	Poland	Valid	.00 no	816	71,5	71,5	71,5
			1,00 yes	325	28,5	28,5	100,0
			Total	1141	100,0	100,0	
7	Romania	Valid	.00 no	950	79,7	79,7	79,7
			1,00 yes	242	20,3	20,3	100,0
			Total	1192	100,0	100,0	
8	Croatia	Valid	.00 no	597	59,7	59,7	59,7
			1,00 yes	403	40,3	40,3	100,0
			Total	1000	100,0	100,0	
9	Serbia	Valid	.00 no	504	50,4	50,4	50,4
			1,00 yes	496	49,6	49,6	100,0
			Total	1000	100,0	100,0	
10	Slovenia	Valid	.00 no	569	58,4	58,4	58,4
			1,00 yes	405	41,6	41,6	100,0
			Total	974	100,0	100,0	
11	Belorus	Valid	.00 no	785	78,5	78,5	78,5
			1,00 yes	215	21,5	21,5	100,0
			Total	1000	100,0	100,0	
12	Ukraine	Valid	.00 no	947	81,6	81,6	81,6
			1,00 yes	214	18,4	18,4	100,0
			Total	1161	100,0	100,0	

Multinomial Regression Model

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	18539,843			
Final	16633,669	1906,175	60	,000

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	17912,947	17582	,039
Deviance	16510,438	17582	1,000

Pseudo R-Square

Cox and Snell	,186
Nagelkerke	,215
McFadden	,102

Likelihood Ratio Tests

Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	16633,669	,000	0	,
S2COL	16648,980	15,312	2	,000
ECWELLBE	16644,169	10,500	2	,005
Q24C	16649,847	16,179	2	,000
Q35C	16647,661	13,992	2	,001
Q44	16651,459	17,790	2	,000
Q56A	16653,689	20,021	2	,000
S6	16723,684	90,016	6	,000
S1	16672,062	38,394	2	,000
Q4	17070,233	436,565	16	,000
Q15COL	16643,123	9,454	4	,051
COUNTRYR	17223,005	589,337	20	,000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

Parameter Estimates

TYPOLOGY Typology of Economies		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
1 black economy	Intercept	-,597	,233	6,581	1	,010			
	S2COL	-9,27E-02	,025	14,271	1	,000	,911	,869	,956
	ECWELLBE	-8,62E-03	,016	,306	1	,580	,991	,962	1,022
	Q24C	-2,71E-02	,028	,924	1	,336	,973	,921	1,029
	Q35C	9,402E-02	,025	13,744	1	,000	1,099	1,045	1,155
	Q44	,132	,037	12,645	1	,000	1,141	1,061	1,228
	Q56A	8,349E-02	,030	7,795	1	,005	1,087	1,025	1,153
	[S6=1]	-,271	,099	7,496	1	,006	,762	,628	,926
	[S6=2]	-,213	,093	5,180	1	,023	,808	,673	,971
	[S6=3]	-,140	,085	2,710	1	,100	,869	,735	1,027
	[S6=4]	0 ^a	,	,	0	,	,	,	,
	[S1=1]	,322	,055	34,957	1	,000	1,380	1,240	1,536
	[S1=2]	0 ^a	,	,	0	,	,	,	,
	[Q4=1]	-,613	,094	42,159	1	,000	,542	,450	,652
	[Q4=2]	,156	,153	1,039	1	,308	1,169	,866	1,578
	[Q4=3]	,916	,190	23,312	1	,000	2,498	1,723	3,623
	[Q4=4]	-3,78E-02	,141	,072	1	,789	,963	,730	1,270
	[Q4=5]	-1,402	,139	101,512	1	,000	,246	,187	,323
	[Q4=6]	,679	,140	23,389	1	,000	1,972	1,497	2,596
	[Q4=7]	-1,77E-02	,157	,013	1	,910	,982	,723	1,335
	[Q4=8]	-,681	,170	16,133	1	,000	,506	,363	,706
	[Q4=9]	0 ^a	,	,	0	,	,	,	,
	[Q15COL=-1,00]	,180	,062	8,524	1	,004	1,197	1,061	1,351
	[Q15COL=.00]	2,262E-02	,102	,050	1	,824	1,023	,838	1,248
	[Q15COL=1,00]	0 ^a	,	,	0	,	,	,	,
	[COUNTRYR=2]	,170	,135	1,583	1	,208	1,185	,910	1,543
	[COUNTRYR=3]	-,318	,145	4,802	1	,028	,728	,548	,967
	[COUNTRYR=4]	-,157	,138	1,297	1	,255	,855	,652	1,120
	[COUNTRYR=5]	-3,87E-02	,140	,077	1	,782	,962	,732	1,265
	[COUNTRYR=6]	-,251	,137	3,344	1	,067	,778	,595	1,018
	[COUNTRYR=7]	,219	,137	2,531	1	,112	1,244	,951	1,629
	[COUNTRYR=8]	,949	,140	46,180	1	,000	2,584	1,965	3,398
[COUNTRYR=9]	,793	,130	37,383	1	,000	2,211	1,714	2,851	
[COUNTRYR=10]	1,161E-02	,139	,007	1	,934	1,012	,770	1,330	
[COUNTRYR=11]	-,186	,133	1,943	1	,163	,830	,639	1,078	
[COUNTRYR=12]	0 ^a	,	,	0	,	,	,	,	
2 household economy	Intercept	-,514	,253	4,136	1	,042			
	S2COL	-8,48E-03	,027	,099	1	,753	,992	,940	1,045
	ECWELLBE	4,652E-02	,016	8,300	1	,004	1,048	1,015	1,081
	Q24C	-,112	,028	16,221	1	,000	,894	,847	,944
	Q35C	1,769E-02	,026	,471	1	,492	1,018	,968	1,071
	Q44	-4,33E-02	,041	1,120	1	,290	,958	,884	1,038
	Q56A	-8,47E-02	,035	5,808	1	,016	,919	,858	,984
	[S6=1]	,844	,124	46,565	1	,000	2,325	1,824	2,962
	[S6=2]	,469	,124	14,346	1	,000	1,598	1,254	2,037
	[S6=3]	,390	,119	10,667	1	,001	1,476	1,169	1,865
	[S6=4]	0 ^a	,	,	0	,	,	,	,
	[S1=1]	2,347E-04	,058	,000	1	,997	1,000	,892	1,121
	[S1=2]	0 ^a	,	,	0	,	,	,	,
	[Q4=1]	-,604	,108	31,215	1	,000	,546	,442	,676
	[Q4=2]	-,219	,184	1,411	1	,235	,803	,560	1,153
	[Q4=3]	-8,74E-02	,232	,141	1	,707	,916	,581	1,445
	[Q4=4]	-,104	,170	,378	1	,539	,901	,646	1,256
	[Q4=5]	-,540	,138	15,262	1	,000	,583	,444	,764
	[Q4=6]	,521	,158	10,833	1	,001	1,683	1,234	2,295
	[Q4=7]	3,096E-02	,171	,033	1	,857	1,031	,737	1,443
	[Q4=8]	-8,96E-02	,164	,300	1	,584	,914	,663	1,260
	[Q4=9]	0 ^a	,	,	0	,	,	,	,
	[Q15COL=-1,00]	4,069E-02	,068	,363	1	,547	1,042	,912	1,189
	[Q15COL=.00]	-8,77E-02	,118	,556	1	,456	,916	,728	1,153
	[Q15COL=1,00]	0 ^a	,	,	0	,	,	,	,
	[COUNTRYR=2]	-,325	,133	5,991	1	,014	,722	,557	,937
	[COUNTRYR=3]	-,987	,152	42,103	1	,000	,373	,276	,502
	[COUNTRYR=4]	-,135	,131	1,058	1	,304	,874	,676	1,130
	[COUNTRYR=5]	-1,015	,145	49,250	1	,000	,362	,273	,481
	[COUNTRYR=6]	-,408	,132	9,486	1	,002	,665	,513	,862
	[COUNTRYR=7]	,782	,124	39,675	1	,000	2,186	1,714	2,788
	[COUNTRYR=8]	-,355	,153	5,375	1	,020	,701	,520	,947
[COUNTRYR=9]	-,565	,153	13,587	1	,000	,569	,421	,768	
[COUNTRYR=10]	-,982	,159	38,359	1	,000	,374	,274	,511	
[COUNTRYR=11]	-,183	,126	2,108	1	,147	,832	,650	1,066	
[COUNTRYR=12]	0 ^a	,	,	0	,	,	,	,	

a. This parameter is set to zero because it is redundant.

Parameter Estimates

TYPOL OG2 Typolog ie mit	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
1 black	Intercept	-8,29E-02	,284	,085	1	,771		
	S2COL	-8,42E-02	,030	7,921	1	,005	,919	,867
	ECWELLBE	-5,51E-02	,019	8,633	1	,003	,946	,912
	Q24C	8,489E-02	,033	6,648	1	,010	1,089	1,021
	Q35C	7,633E-02	,030	6,274	1	,012	1,079	1,017
	Q44	,175	,046	14,646	1	,000	1,192	1,089
	Q56A	,168	,038	19,380	1	,000	1,183	1,098
	[S6=1]	-1,115	,136	67,000	1	,000	,328	,251
	[S6=2]	-,682	,134	25,779	1	,000	,506	,389
	[S6=3]	-,530	,127	17,322	1	,000	,589	,459
	[S6=4]	0 ^a	,	,	0	,	,	,
	[S1=1]	,322	,067	23,106	1	,000	1,380	1,210
	[S1=2]	0 ^a	,	,	0	,	,	,
	[Q4=1]	-8,38E-03	,115	,005	1	,942	,992	,792
	[Q4=2]	,375	,189	3,957	1	,047	1,455	1,006
	[Q4=3]	1,003	,232	18,657	1	,000	2,726	1,730
	[Q4=4]	6,644E-02	,177	,141	1	,707	1,069	,756
	[Q4=5]	-,861	,163	28,060	1	,000	,423	,307
	[Q4=6]	,158	,153	1,075	1	,300	1,171	,869
	[Q4=7]	-4,87E-02	,183	,071	1	,790	,952	,665
	[Q4=8]	-,591	,198	8,947	1	,003	,554	,376
	[Q4=9]	0 ^a	,	,	0	,	,	,
	[Q15COL=-1,00]	,139	,077	3,311	1	,069	1,150	,989
	[Q15COL=,00]	,110	,133	,690	1	,406	1,117	,861
	[Q15COL=1,00]	0 ^a	,	,	0	,	,	,
	[COUNTRYR=2]	,495	,157	9,901	1	,002	1,640	1,205
	[COUNTRYR=3]	,670	,182	13,506	1	,000	1,954	1,367
	[COUNTRYR=4]	-2,24E-02	,158	,020	1	,887	,978	,718
	[COUNTRYR=5]	,976	,173	31,675	1	,000	2,655	1,889
	[COUNTRYR=6]	,157	,158	,995	1	,319	1,170	,859
	[COUNTRYR=7]	-,564	,148	14,529	1	,000	,569	,426
	[COUNTRYR=8]	1,304	,168	60,121	1	,000	3,684	2,650
[COUNTRYR=9]	1,358	,165	67,741	1	,000	3,888	2,814	
[COUNTRYR=10]	,994	,181	30,325	1	,000	2,702	1,897	
[COUNTRYR=11]	-2,56E-03	,153	,000	1	,987	,997	,739	
[COUNTRYR=12]	0 ^a	,	,	0	,	,	,	
2 formal	Intercept	,514	,253	4,136	1	,042		
	S2COL	8,480E-03	,027	,099	1	,753	1,009	,957
	ECWELLBE	-4,65E-02	,016	8,300	1	,004	,955	,925
	Q24C	,112	,028	16,221	1	,000	1,118	1,059
	Q35C	-1,77E-02	,026	,471	1	,492	,982	,934
	Q44	4,325E-02	,041	1,120	1	,290	1,044	,964
	Q56A	8,466E-02	,035	5,808	1	,016	1,088	1,016
	[S6=1]	-,844	,124	46,565	1	,000	,430	,338
	[S6=2]	-,469	,124	14,346	1	,000	,626	,491
	[S6=3]	-,390	,119	10,667	1	,001	,677	,536
	[S6=4]	0 ^a	,	,	0	,	,	,
	[S1=1]	-2,35E-04	,058	,000	1	,997	1,000	,892
	[S1=2]	0 ^a	,	,	0	,	,	,
	[Q4=1]	,604	,108	31,215	1	,000	1,830	1,480
	[Q4=2]	,219	,184	1,411	1	,235	1,245	,867
	[Q4=3]	8,736E-02	,232	,141	1	,707	1,091	,692
	[Q4=4]	,104	,170	,378	1	,539	1,110	,796
	[Q4=5]	,540	,138	15,262	1	,000	1,716	1,309
	[Q4=6]	-,521	,158	10,833	1	,001	,594	,436
	[Q4=7]	-3,10E-02	,171	,033	1	,857	,970	,693
	[Q4=8]	8,962E-02	,164	,300	1	,584	1,094	,794
	[Q4=9]	0 ^a	,	,	0	,	,	,
	[Q15COL=-1,00]	-4,07E-02	,068	,363	1	,547	,960	,841
	[Q15COL=,00]	8,767E-02	,118	,556	1	,456	1,092	,867
	[Q15COL=1,00]	0 ^a	,	,	0	,	,	,
	[COUNTRYR=2]	,325	,133	5,991	1	,014	1,384	1,067
	[COUNTRYR=3]	,987	,152	42,103	1	,000	2,684	1,992
	[COUNTRYR=4]	,135	,131	1,058	1	,304	1,144	,885
	[COUNTRYR=5]	1,015	,145	49,250	1	,000	2,759	2,078
	[COUNTRYR=6]	,408	,132	9,486	1	,002	1,504	1,160
	[COUNTRYR=7]	-,782	,124	39,675	1	,000	,457	,359
	[COUNTRYR=8]	,355	,153	5,375	1	,020	1,426	1,056
[COUNTRYR=9]	,565	,153	13,587	1	,000	1,759	1,303	
[COUNTRYR=10]	,982	,159	38,359	1	,000	2,671	1,957	
[COUNTRYR=11]	,183	,126	2,108	1	,147	1,201	,938	
[COUNTRYR=12]	0 ^a	,	,	0	,	,	,	

a. This parameter is set to zero because it is redundant.

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