
BEYOND PROXY INDICATORS: FROM INDIRECT TO DIRECT MEASURES OF THE UNDERGROUND SECTOR IN EAST-CENTRAL EUROPE

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Abstract

To evaluate the size of the underground sector, numerous measurement methods have been employed ranging from indirect to direct survey approaches. Evaluating critically the range of techniques available, this paper firstly highlights the growing appreciation that direct rather than indirect measurement methods are more appropriate, reliable and accurate. Following this, attention turns towards the results of a study that has employed such direct survey methods to analyze the underground sector in East-Central Europe, namely the New Democracies Barometer (NDB) Survey. Examining eleven countries in the years 1992, 1994, 1996 and 1998, this reveals not only that underground work is either the most important or second most important contributor to living standards for around a quarter of all households but also that this sphere became more rather than less important to households in the decade after the collapse of the socialist bloc. Moreover, and contrary to the narrative that underground work is a survival practice for those excluded from the formal sphere, it is here shown that households relying on underground work for their livelihoods cope just as well, if not better, measured in terms of their ability to acquire consumer goods, as those reliant on the formal economy in East-Central Europe.

Introduction

The aim of this paper is to evaluate critically the use of indirect proxy indicators to evaluate the underground sector and to display how a consensus has begun to emerge that direct survey methods are more reliable, accurate and appropriate. Given that most of the direct surveys so far conducted have been small-scale qualitative studies, and that this has prevented cross-national comparisons being made, this paper reports the results of one of the only direct surveys to have produced comparative cross-national data on underground work.

Firstly, therefore, this paper will evaluate critically the various measurement methods that have been employed to analyze the underground sector. Revealing that the emerging consensus is that direct survey methods are more reliable and appropriate than indirect methods, attention then turns to reporting the results of one of the few cross-national direct surveys so far undertaken, namely the New Democracies Barometer (NDB) Survey, that compares the importance of the underground sector to living standards in eleven countries in East-Central Europe. The outcome will be to provide not only a baseline assessment of the importance of the underground sector to the post-socialist societies of East-Central Europe but also to raise some important issues about its resultant impact on household living standards that indirect survey methods have so far failed to identify.

Before commencing, it is important to define the underground sector. Similar to most other papers in this symposium, the underground sector is here defined in the now widely accepted manner as involving the paid production and sale of goods and services that are unregistered by, or hidden from the state for tax and/or

welfare purposes but which are legal in all other respects (Feige, 1999; Portes, 1994; Thomas, 1992; Williams and Windebank, 1998). As such, only paid work that is illegal because of its non-declaration to the state for tax and/or social security purposes is included under the umbrella of the underground sector. Monetised exchanges where the goods and/or services are illegal (e.g., drug trafficking) are excluded, as are non-monetised exchanges.

Measurement methods: a critical evaluation

Given that the underground sector is by its very nature hidden from, or unregistered by, the state, estimating its size is a perplexing and difficult task. The methods so far used range from techniques that employ direct survey methods to those that attempt to indirectly measure its size by seeking statistical traces of the underground sector in data collected for other purposes (see Bajada, 2002; Thomas, 1992; OECD, 2002; Renooy et al, 2004; Williams, 2004a; Williams and Windebank, 1998). These indirect methods use various measures ranging from non-monetary proxy indicators (e.g., based on labor force estimates, the number of very small enterprises, electricity demand), through monetary indicators (e.g., of the number of large denomination bank notes in circulation, the cash-deposit ratio or level of monetary transactions) to income/expenditure discrepancies either at the household and/or national level.

Indeed, the major reason that indirect evidence is sought in macroeconomic data collected and/or constructed for other purposes is because there is a pervasive assumption that respondents directly approached will not be forthcoming about whether or not they engage in underground work. For those who use proxy indirect measures, therefore, the belief is that even though these underground workers wish to hide their incomes, their work will be nonetheless revealed at the

macroeconomic level so it is through these statistical traces that the level of underground work can be identified. At the other end of the spectrum are those who assume that despite the illicit nature of underground work, reliable data can be collected from research participants. These analysts thus conduct direct surveys. Here, a critical review is provided of measurement methods used to date so as to provide an overview of how data is collected and the problems involved.

Indirect methods

Indirect methods are of three kinds. Firstly, there are those that seek statistical traces of such work in non-monetary proxy indicators such as discrepancies in labor supply figures or the number of very small firms. Secondly, there are those that track down evidence of underground work in monetary indicators collected for other purposes, and third and finally, there are those that investigate discrepancies between income and expenditure levels either at the household and/or national level. Each is here considered in turn. The problem with all of these methods, as will be shown, is that these indicators not only provide an unreliable and inaccurate proxy of the volume of underground work but also are unable to provide any understanding of the nature or distribution of such work. Instead, in most cases, they make some very crude assumptions concerning its character that are far from proven.

Indirect non-monetary indicators

The two most common indirect approaches that use non-monetary surrogate indicators to estimate the extent of underground work are firstly, those that seek traces of underground work in formal labor force statistics and

secondly, those that use very small enterprises (VSEs) as a proxy for the existence of underground work.

Labor force estimates. Methods that seek to measure underground work from formal labor force statistics are of two types. Firstly, there are those that identify various types of employment (e.g., self-employment, second-job holding) as proxy indicators of the existence of underground work and then look for unaccountable increases in official labor force statistical data on the numbers employed in these categories (e.g., Crnkovic-Pozaic, 1999). The problem, however, is that the idea that underground work prevails in these categories of employment is an assumption, rather than a finding, of the technique, and there is no way of discerning the extent to which it is underground work, rather than other factors, that has led to an increase in these categories of employment. The growth of self-employment, for instance, is not simply a result of the rise in underground work. It is also due to the rise of an enterprise culture, increased sub-contracting in the production process and the advent of other forms of flexible production arrangements. Second-job holding, furthermore, is by no means a direct result of underground work except if such job holding is illegal per se. It is also in part the combined result of broader economic and cultural restructuring. To identify the proportion of growth in either self-employment or multiple jobholding attributable to such processes and the share attributable to underground work at a particular moment is thus a difficult if not impossible task.

Secondly, therefore, those who analyze official employment data for evidence of underground work have sought discrepancies in the results of different surveys used to compile official employment statistics (e.g., Denison, 1982). However, many problems exist with this approach. The first problem as both Bajada (2002) and Williams and Windebank (1998) highlight, is that it erroneously assumes

that each individual is either a licit or illicit worker and in so doing, misses the vast majority of underground work conducted by those who have a formal job (Williams, 2004a). Secondly, by analyzing only those employed in businesses, it assumes that all underground work is conducted on an 'organized' basis and misses both more autonomous forms of underground work and underground work conducted for households. Thirdly, there is no reason to assume that an underground worker will describe him/herself as employed in a household survey whilst the employer will not in a business survey. And fourth and finally, the fact that such analyses have resulted in contradictory results, with some studies showing no change in size of the underground sector in the post-war years (e.g., Denison 1982) and other showing growth (e.g. US Joint Economic Committee, 1983) intimates the need for great caution. Identifying the magnitude of underground work through formal labor force statistics, in sum, is beset by problems that cannot be easily transcended and this method has waned in popularity since its heyday in the early 1980s. Indeed, Eurostat in a note to the informal Council of Ministers of Employment and Social affairs on undeclared work, conclude that 'a comparison of the labor force survey results with administrative sources or register data on an aggregate level does not yield an estimate of undeclared work' (cited in Renooy et al, 2004: 99).

Very small enterprise (VSE) approach. For many commentators, very small enterprises (VSE) represent a useful alternative non-monetary proxy (e.g., International Labor Office, 2002). The assumption is that most underground work takes place in small companies because of their reduced visibility, greater flexibility and better opportunities to escape state controls. Larger firms, meanwhile, are viewed as subject to more state regulation and risk-averse to the potential penalties so will be less likely

to direct employ underground workers, although they are purported to subcontract to smaller firms who use such labor.

As an indicator of underground work, however, the VSE approach is subject to two contradictory assumptions. On the one hand, not all VSEs engage in underground work, which could lead to an overestimate. On the other hand, fully underground VSEs will escape government record keeping that could lead to an underestimate (Portes, 1994). Moreover, it seems likely that the extent to which VSEs participate either wholly or partly in underground practices will vary according to the geographical context in which they are operating (Williams and Windebank, 1998). As such, estimates of both the size and growth/decline of underground work using this proxy indicator can only be very approximate. More importantly, such a proxy totally ignores more individualized forms of underground work conducted by people on a one-to-one basis to meet final demand.

Yet despite the inappropriateness of this indicator, it remains widely used. The International Labor Office, for example, collects data from 54 countries on 'informal sector enterprise' (International Labor Office, 2002). Despite the existence of an internationally agreed definition adopted by the Fifteenth International conference of labor Statisticians (ICLS), most of these 54 countries still adhere to their own national definitions, 21 of which use the criterion of non-registration of the enterprise, either alone or in combination with other criteria such as small size or type of workplace location, while 33 countries use small size as a criterion, either alone or in combination with non-registration of workplace location. In consequence, variants of the VSE approach are still in common usage and it should not be thought that this indirect non-monetary approach is abeyance. If anything, and as shown by the ILO, quite the opposite is

the case, despite its inappropriateness to understanding the full range of underground work in contemporary societies.

Although the labor force and VSE measures are the most popular non-monetary indicators used to measure underground work, they are not the only non-monetary proxies employed. Recent years have seen various other non-monetary indicators adopted to measure underground work, such as electricity demand (e.g., Friedmann et al, 2000; Lacko, 1999). Ultimately, however, and whichever indicator is employed, indirect non-monetary proxy measures all suffer from the same problems. They provide little more than a crude indicator of the extent of underground work and little, if any, information about the nature and distribution of underground work. As such, other analysts have turned to monetary indicators in the belief that this will enable a much closer estimate of underground work.

Indirect monetary indicators

Methods seeking evidence of underground work in indirect monetary indicators have concentrated largely on three proxies, namely large denomination notes, the cash-deposit ratio and money transactions.

Large denomination notes. In this approach, the circulation of high denomination bank notes is seen as a key indicator of the prevalence of underground work (Carter 1984, Freud, 1979; Henry, 1982). This methodology, used principally during the 1970s and early 1980s, but now falling out of favor, is embedded in a portrayal that views underground workers as carrying around a roll of bank notes. It assumes not only that they use cash exclusively in their transactions but also that they handle large quantities of cash and exchange high denomination bank notes.

However, this method is problematic for at least three reasons. Firstly, it cannot separate the use of large denomination notes from crime from their use in underground work, meaning that one has no way of knowing the proportion used for crime and the share for underground work. Secondly, there is little evidence that those engaged in underground work use large denomination notes. Indeed, many underground transactions are for relatively small amounts of money (e.g., Cornuel and Duriez, 1985; Evason and Woods, 1995; Tanzi, 1980) and do not necessarily even involve the use of cash in transactions (see below). Using high denomination bank notes, therefore, seems to be not only a poor proxy indicator of the level of underground work but also grounded in a conceptualization of its nature that is, at the very best, a description of only a very small segment of all underground work. Third and finally, there are a multitude of other factors that may account for the increased use of large denomination bank notes in contemporary society. The large denomination notes approach, in sum, represents a very unreliable indicator of the extent and changing magnitude of underground work and makes some heroic and erroneous assumptions about the overall character of this work.

Cash-deposit ratio approach. Examining the ratio of currency in circulation to demand deposits, this approach is again grounded in the assumption that to conceal income, illegitimate transactions will occur in cash. This approach thus seeks an estimate of the currency in circulation required by legal activities and subtracts this figure from the actual money in circulation. The difference, multiplied by the velocity of money, is taken as an estimate of the magnitude of underground work. The ratio of this figure to the observed GNP then provides a measure of the proportion of the national economy represented by underground work (e.g., Atkins, 1999; Gutmann, 1978; Tanzi, 1980).

However, it is a method with some serious flaws, namely: cash is not always the medium for underground exchanges; this approach cannot distinguish between what share of illegitimate cash in circulation is due to underground work and what proportion is due to crime, nor how this is changing over time; the choice of the cash-deposit ratio as a measure of underground work is an arbitrary one that is not derived from economy theory (e.g. Trundle, 1982) and it is not clear why it is chosen over others; the cash-deposit ratio is influenced not only by underground work but also by a myriad of other tendencies; the choice of a base period when underground work did not exist is problematic; it is difficult to know the velocity of cash circulation in the underground sphere; some of the cash attributed to the underground sphere will doubtless be held abroad causing an exaggeration of the size of the underground sector; and this approach does not allow one to consider the nature or distribution of underground work. In a bid to overcome one of the problems with this approach (i.e., that informal transactions are assumed to occur in cash), the next approach relaxes this assumption.

Money transactions approach. Recognizing that checks as well as cash are used in underground transactions, Feige (1979) measures its magnitude by estimating the extent to which the total quantity of monetary transactions exceeds what would be predicted in the absence of underground work. By relaxing the cash only assumption, the unsurprising result is that the money-transactions approach generally produces much higher estimates of the size of underground work than other approaches. Before accepting such findings, however, it must be recognized that this approach suffers exactly the same problems as the cash-deposit ratio approach. The only problem it overcomes is the acceptance that checks can be used in underground transactions. Here, in consequence, the criticisms are not repeated.

Instead, and to conclude the review of indirect monetary methods, two key points need to be made. Firstly, there are inherent problems with all of these indirect methods for evaluating the volume of underground work that raise grave doubts about the validity of their findings (see Tanzi, 1999; Thomas, 1999; Williams and Windebank, 1998). Yet despite this, such approaches continue to be used to measure its magnitude (e.g., Bhattacharya, 1999; Dixon, 1999; Giles, 1999; Giles and Caragata, 2001; Hill, 2002; OECD, 1997, 2000, 2002). Secondly, and most importantly, none of these approaches appear capable of providing information on the nature and distribution of underground work. Given that 'the methodology underlying the monetary approaches... rests upon questionable and generally untested assumptions and ... the estimates they have generated are of dubious validity' (Thomas, 1988: 180), the only conclusion that can be thus here reached is that 'Estimates of the size of the black economy based on cash indicators are best ignored' (Smith 1986: 106). Here, therefore, another method of assessing underground work that again uses monetary methods but in a more direct manner is evaluated.

Income/expenditure discrepancies

This explores the differences in expenditure and income either at the aggregate national level or through detailed microeconomic studies of different types of individuals or households. It is premised on the assumption that even if underground workers can conceal their incomes, they cannot hide their expenditures. An assessment of income/expenditure discrepancies is thus considered to reveal the extent of underground work and where it is to be found.

Although this method has advantages over other indirect monetary methods, not least its reliance on relatively direct and statistically representative survey data, its problems remain manifold (see Thomas, 1988, 1992; Smith, 1986). For the discrepancy to represent a reasonable measure of the level of underground work, one has to make a number of assumptions about the accuracy of the income and expenditure data. Take, for example, the expenditure side of the equation. Estimates depend upon the accurate declaration of expenditure to government interviewers by respondents. Mattera (1985) suggests that it is somewhat naïve to assume that this is the case. Equally convincing is the criticism that, for most people, spending is either over- or under-estimated during a survey because records are kept by few members of the population compared with income, which for employees comes in regular recorded uniform installments. Moreover, at an aggregate level at least, such expenditure will omit underground purchases by both declared and underground incomes (Dallago, 1991). Household level expenditure studies also suffer from the fatal flaw of only analyzing final demand (i.e., consumer expenditure), not intermediate demand (i.e., business expenditure) for underground goods and services. As such, it ignores underground produced intermediate demand, such as underground sub-contracting as well as off-the-books employment by formal enterprises (Portes, 1994).

On the income side, meanwhile, these studies cannot decipher whether the income derives from criminal or underground activities, or even whether it derives from wealth accumulated earlier such as money savings. In addition, there are often problems of non-response as well as under-reporting (Thomas, 1992).

Consequently, it is difficult to accumulate accurate data on the extent of underground work using this method.

Weck-Hannemann and Frey (1985) bring such problems to the fore when they report that the national income in Switzerland tends to be larger than the expenditure. According to this method, Swiss underground work is negative. This is nonsensical and reveals that the discrepancy does not display the level of underground work but is due to other factors. For this reason, more direct approaches to investigating underground work have been recently explored as a way forward (e.g., OECD, 2002; Renooy et al, 2004; Williams, 2004a,b).

Direct survey methods

To survey directly the magnitude and character of underground work, one can in theory ask suppliers and/or purchasers of underground work about the volume and/or value of their exchanges, what they did/received, for/from whom and why.

Starting with the volume of underground work, studies can directly or indirectly ask either households or businesses whether they have used underground work to acquire specific goods and/or services. In practice, much of the research to assess the volume of underground work has been conducted on a household level and has requested information from respondents both as suppliers and purchasers of underground work. To explore the value of underground purchases and/or sales, meanwhile, the amount of money earned by sellers, or spent by consumers, with regard to underground work can be analyzed, or alternatively, the importance of its contribution to overall living standards can be analyzed. Again, most studies have tended to investigate respondents as both purchasers and sellers (e.g., Fortin et al, 1996; Lemieux et al, 1994), although some examine respondents only as purchasers (e.g., McCrohan et al, 1991)

This data can be collected, moreover, either through mail-shot questionnaires (e.g., Fortin et al, 1996) or through face-to-face interviews that range from the relatively unstructured (e.g., Howe, 1988) to the relatively structured (e.g., Williams and Windebank, 2001a) using either open-and/or closed-ended questions. On the whole, and perhaps reflecting the lack of data available on this subject, most studies have used relatively quantitative approaches composed largely of closed-ended questions and then frequently employed a variety of more open-ended questions and/or qualitative methods for in-depth exploration of the findings (e.g., Leonard 1994, Pahl, 1984). Indeed, even studies relying primarily on ethnography, such as that by Howe (1988), have conducted some interviews as a quantitative precursor for their ethnographical material.

Although in theory direct studies could be carried out on cross-national, national, regional or local population samples, in most instances, they have tended to be applied to particular localities (e.g., Barthe, 1985; Fortin et al, 1996; Leonard, 1994; Pahl, 1984; Renooy 1990, Williams and Windebank, 2003a), socio-economic groups (e.g., Phizacklea and Wolkowitz, 1995) or industrial sectors (e.g., Ram et al, 2003). Cross-national comparative studies have been few and far between, not least due to the costs involved.

Examining criticisms of these direct survey methods, it is telling that these derive almost entirely from the users of indirect approaches. Their main criticism is that researchers naively assume that people will reveal to them, or even know, the character and magnitude of their underground work in their lives. It is intimated on the one hand, that purchasers may not even know if such work is being offered informally or formally and on the other hand, that sellers will

be reticent about disclosing the nature and extent of their underground work since it is illegal activity.

The former point might be correct. For example, if a purchaser has his/her external windows cleaned or buys some goods from a market stall, s/he might assume that this money is not declared when this is not necessarily the case, or vice versa. In other words, although consumers may often assume that goods and services bought in certain contexts are purchased on an underground basis whilst in other contexts they are not, their assumptions might be incorrect. Goods acquired in formal retail outlets for instance, may not only have been produced on an underground basis but may even be sold in such a manner (e.g., in illegally inhabited shops) without the knowledge of the consumer. Not all those dealing in cash, meanwhile, may necessarily be working on an underground basis (e.g., they may not have confidence in the purchaser's check), just as some accepting checks may be tax evaders. On the whole, therefore, although people who purchase goods and services may be more willing to reveal whether they think it has been bought on an underground basis, they cannot necessarily be sure whether this is indeed the case unless the supplier informs them that this is so.

Despite the assertions of those critical of direct surveys, however, it is not necessarily the case that those supplying underground work will be untruthful in their dealings with researchers. Indeed, such a criticism has been refuted many times before, although it continues to be raised. Pahl (1984), for example, found that when the results from individuals as suppliers and purchasers were compared, the same level of underground work was discovered. Similar conclusions have been identified elsewhere (e.g., Leonard, 1994, 1998; MacDonald, 1994; Williams and Windebank, 2003a).

The implication, therefore, is that individuals are not secretive as sometimes suggested about their underground work. Just because it is activity hidden from or unregistered by the state for tax and/or social security purposes does not mean that people will hide it from each other or even from academic researchers. Importantly, it also intimates that customers are not as wrong as might be considered about whether or not a supplier is working on an underground basis.

There are, nevertheless, perhaps two salient criticisms of direct methods that remain. On the one hand, there is the issue that direct approaches have so far largely investigated only underground work used in relation to final demand (spending by consumers on goods and services), not intermediate demand (spending by businesses). Final demand, however, accounts for some two-thirds of total spending. There is a case, therefore, for extending such direct investigations to include business surveys. On the other hand, there is the issue that most direct surveys have so far tended to confine themselves to small-scale, often qualitative studies, of particular localities, groups or sectors, meaning that it has been difficult to gain firstly, any representative picture of the overall level, nature and distribution of underground work in particular countries and secondly, any understanding of the cross-national variations in such work. As will be seen below, however, at least the second of these criticisms has started to be addressed by one direct survey of underground work.

In sum, although there are a wide range of measurement methods used to analyze the extent, nature and distribution of underground work, there has steadily emerged a consensus not only that indirect measurement methods are limited in their usefulness but also that direct methods are more accurate, reliable and appropriate. Indeed, this is the

conclusion of both OECD experts in their handbook on measurement methods (OECD, 2002), the most recent European Commission report on the underground economy (Renooy et al, 2004) and a host of academic reviews of these measurement methods (see Thomas 1992; Williams, 2004a; Williams and Windebank, 1998). Here, therefore, and in order to begin to show the wider potential of such direct methods, a large-scale cross-national survey is reported that has directly investigated the extent, nature and distribution of underground work in East-Central Europe.

The underground sector in East-Central Europe: results of a direct cross-national survey

Having reviewed the ways in which underground work can be measured, it has been revealed above that there has emerged a consensus that direct survey methods are the most appropriate and reliable method. Until now, however, the vast majority of direct surveys of the underground sector have been small-scale, often qualitative, local studies. This has been the case both in the context of East-Central Europe (e.g., Arnstberg and Boren, 2003; Boren, 2003; Burawoy and Verdery, 2003; Meurs, 2002; Pavolvskaya, 2004; Piirainen, 1997; Smith, 2002a,b) and advanced western societies (e.g., Jensen et al, 1995; Leonard, 1994, 1998; MacDonald, 1994; Nelson and Smith, 1999; Pahl, 1984; Van Geuns et al, 1987; Williams, 2004a,b). There have been few cross-national comparative direct surveys of this form of work. Below, therefore, one of the few such studies to have been conducted is reported so as to begin to show the wider potential of direct survey methods.

The New Democracies Barometer (NDB) Survey

To measure the extent and distribution of underground work in East-Central Europe, the New

Democracies Barometer (NDB) survey conducted face-to-face interviews with a random survey of some 1,000 people in each of eleven countries - Poland, Czech Republic, Hungary, Slovakia, Slovenia, Croatia, the Former Republic of Yugoslavia, Romania, Bulgaria, Belarus and Ukraine - in the years 1992, 1994, 1996 and 1998 (see Rose and Haerpfer, 1992; Wallace and Haerpfer, 2002; Wallace et al, 2004).

All interviews took place on a face-to-face basis since limited telephone ownership means that telephone interviews are not a representative sample. The sampling procedure in each country followed a multi-stage random probability sample, in which the population was stratified regionally and within some regions according to urban/rural divisions and town size. One hundred or more primary sampling points (PSU) were then identified. Within each PSU, individual respondents were chosen on the basis of standard random procedures in the region.

Each national survey was checked as being representative according to gender, age, education, region and town size. Where appropriate, weights were introduced to match the sample to the census. In no case did the weights produce major changes in sample composition or responses. In some countries, the samples routinely included respondents from aged 15 years old. Where this happened, youthful respondents were excluded from the analysis; this reduces slightly the number of responses analyzed from the 52,940 interviews. All the data reported below are for those aged 18 or over. In Croatia and the Former Republic of Yugoslavia, the war zones were excluded from the sample.

It is important to note that this direct survey did not solely seek to uncover underground work in these countries. Indeed, underground work was investigated in the context of the broader question of how people were securing their

livelihoods. To do this, the survey asked: 'Which activity on this card is the most important for the standard of living of you and your family?'. The categories of response were: growing own food; repairing house; what we get as favors; 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; and don't know. The respondent was thus asked to state the sphere on which they most relied and the question was then repeated for the second most important to them for their standard of living.

The categories were then grouped for analytical purposes into four spheres so as to evaluate how they secured their livelihoods. Firstly, the categories of earnings of regular job, pension, unemployment benefit, and benefits at place work were taken to delineate reliance on the 'formal economy' (work or benefits from the public formal economy). Secondly, growing one's own food and repairing the house were taken to delineate reliance on 'subsistence' work (production for household consumption). Thirdly, what we get as favors, and what we get with help of friends, relatives delineated reliance on 'unpaid community exchange' (favors and help from friends, acquaintances and kin living outside of their household), and fourth and finally, getting foreign money, earnings of second job, and incidental earnings were taken to delineate reliance on the 'underground sector' (paid work hidden from, or unreported to, the state for tax and/or social security purposes).

Below, the results are reported. The first section reviews the proportion of households stating that this is the sphere that is most important and second most important to their standard of living. This is then followed by an examination of how the importance of this sphere changed between 1992 and 1998 in these transition economies and

finally, the socio-economic characteristics of households reliant on underground work are analyzed.

Extent of reliance on the underground sector

To what extent do households in these East-Central European nations rely on underground work as their primary or second most important contributor to their standard of living? Table 1 reports the results so far as the proportion of households who primarily rely on underground work for their standard of living is concerned. It displays that some 6 per cent of all households rely first and foremost on the underground sector for their standard of living in these East-Central European nations. This proportion, however, significantly varies cross-nationally, ranging in 1998 from 14 per cent in the war torn former republic of Yugoslavia to 2 per cent in the Czech Republic. Across all of these East-Central European countries, therefore, over one in every twenty households relies principally on underground work for their living standards.

Table 1
Primary sphere relied on by households for the standard of living in East-Central Europe, 1998

Country	Most important to standard of living (% of households)			
	Formal economy	Underground sector	Unpaid exchange	Subsistence work
FRY	68	14	2	16
Croatia	69	10	2	18
Ukraine	57	8	2	33
Belarus	64	8	4	26
Slovenia	80	7	2	11
Poland	70	5	5	21
Romania	46	5	2	47
Bulgaria	69	4	4	24

Slovakia	70	4	1	25
Hungary	83	3	1	14
Czech republic	85	2	2	11
NDB mean	68	6	3	22

Source: derived from Wallace et al (2004: Tables 5,6,7 and 8)

When the responses concerning the second most important sphere relied on for living standards are considered, it becomes apparent that reliance on the underground sector is much more extensive than many perhaps previously considered. As Table 2 displays, in addition to the 6 per cent of households who identify underground work as the principal sphere relied on, a further 22 per cent state that it is the second most important realm that contributes to their standard of living. For one-third of households primarily reliant on unpaid exchange, for example, the underground sphere was cited as their second most important sphere for their standard of living, while nearly a quarter of households primarily reliant on the formal economy stated that the underground sphere was second most important to them. As such, the underground sphere is either the principal or second most important source of livelihood for nearly three in every ten households (28 per cent) in these East-Central European nations.

Table 2
Primary and second most important spheres household
rely on for their standard of living in East-central
Europe, 1998

Primary	%	Of which second most important is:
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sphere relied on	of total	Subsistence work	Unpaid exchange	Underground work	Formal economy
Subsistence work	22	6	2	4	11
Unpaid exchange	3	1	0.4	1	1
Underground work	6	2	1	1	2
Formal economy	68	32	8	16	11

Source: derived from Wallace et al (2004: Table 9)

What, however, about changes over time? Is the contribution of underground work to living standards growing or declining in importance? It is to this issue that attention now turns.

Changes in importance of underground work, 1992 - 1998

Although following the collapse of the socialist bloc, a relatively large proportion of households might have relied on underground work as a survival strategy, it might be expected that over the years, this proportion would decrease as the structural adjustment policies transformed such post-socialist societies into western-style market economies. Examining the shifts between 1992 and 1998 in the proportion of households citing the underground sector as the most important contributor to their standard of living, however, Table 3 reveals that this proportion showed only a slight decline from 7 per cent to 6 per cent in East-Central Europe as a whole. In the early years of the transition, therefore, the proportion of households reliant on underground work as a survival strategy does not appear to have shown any significant decline.

Nevertheless, such a figure masks considerable variations between countries so far as changes in reliance on underground work are concerned. All of the countries that had a relatively large proportion of households reliant on the underground sector in 1992 (FRY, Croatia, Belarus, Romania, Czech Republic and Bulgaria) witnessed a decline in the share of households depending on this sphere between 1992 and 1998, while those countries that had a comparatively small proportion of households reliant on it in 1992 all witnessed a relative expansion in the share reliant on this sphere between 1992 and 1998. In consequence, and as Table 3 clearly displays, over this time period, there was a marked convergence between countries in the share of households primarily reliant on the underground sector.

Table 3
% of households primarily reliant on the underground sector, 1992-1998

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

Source: Wallace and Haerpfer (2002: Table 1)

Turning to the temporal changes when both the primary and second most important spheres relied upon are evaluated, Table 4 displays that although the proportion of households remained relatively steady over this period that primarily relied on the underground sphere and delineated another sphere as second most important, the proportion of households that relied secondarily on underground work for their living standards grew over this period of time.

Table 4
Primary and second most important sphere relied on by
households in East-Central Europe, 1992-1998

Primary & secondary sphere relied on (% of all households)	199 2	199 4	199 6	199 8	Economy on which most reliant
Subsistence & subsistence	4	5	5	6	Community economy
Subsistence & unpaid exchange	3	2	3	2	Community economy
Subsistence & underground	3	3	3	4	Underground economy
Subsistence & formal	11	10	11	11	Community economy
Unpaid exchange & subsistence	1	1	1	1	Community economy
Unpaid exchange & unpaid exchange	0.4	1	0.3	0.4	Community economy
Unpaid exchange & underground	1	1	1	1	Underground economy
Unpaid exchange & formal	1	1	1	1	Community economy
Underground & subsistence	2	2	1	2	Underground economy
Underground & unpaid exchange	1	1	1	1	Underground economy
Underground & underground	1	2	1	1	Underground economy
Underground &	3	3	3	2	Underground

formal					economy
Formal & subsistence	36	33	36	32	Formal economy
Formal & unpaid exchange	8	9	11	8	Formal economy
Formal & underground	13	14	13	16	Underground economy
Formal & formal	11	11	10	13	Formal economy

Source: Wallace and Haerpfer (2002: Table 2)

Indeed, households primarily reliant on the formal economy and secondarily on underground work for their living standard grew from 13 to 16 per cent of all households, while households primarily reliant on subsistence work and secondarily on the underground sphere also grew from 3 to 4 per cent of all households.

To enable further analysis of this phenomenon, the final column of Table 4 groups together households in terms of their reliance on particular forms of work. Firstly, this pools together the categories of subsistence work and unpaid community exchange into a single category of 'community economy' because of the small number of cases in the unpaid community exchange category. Secondly, it groups together for analytical purposes those citing underground work as either the first or second most important contributor to their living standard into an 'underground sector' category.

As can be seen in Table 5, the outcome of this regrouping of households into formal-, community- and underground-orientated types is that in countries such as Serbia and Croatia, some 47 and 45 per cent of households respectively are found to be underground orientated. Indeed, in these two countries, the underground sector is more important to a greater proportion of households than the formal economy. This is not surprising considering the situation in these two countries at the time since they were both affected by war and typical post-war developments such

as a flourishing underground sector. Indeed, the lowest overall proportion of households that were underground orientated was found in the Czech Republic where less than one in five (19 per cent) of all households were dependent on the underground sector for their living standards.

Who, therefore, primarily relies on the underground sphere in order to secure their livelihoods and does it provide them with a similar standard of living to households who source their livelihood through other spheres?

Table 5
Combining principal and second most important
economy for households, 1998

% of households	Underground-orientated	Community orientated	Formal orientated
Serbia	47	11	42
Croatia	45	14	40
Slovenia	26	10	63
Bulgaria	25	20	55
Ukraine	25	28	48
Poland	23	21	56
Belarus	22	23	55
Slovakia	21	22	56
Romania	20	43	36
Hungary	20	13	67
Czech republic	19	11	70

Source: Wallace et al (2004: Figure 9)

Socio-economic characteristics of households reliant on the underground sector

It is often assumed that the underground sector is the province of marginalized populations who use such activity as a survival strategy when they find themselves off-loaded by a formal sphere that no longer has any use for them. This is the 'marginality thesis' (see Williams, 2004). Here, I evaluate critically whether this is indeed the case in the context of East-Central Europe.

Table 6 examines the socio-economic characteristics of households that are underground sector-orientated in terms of achieving their living standards. This reveals that some 26 per cent of respondents in this category were unemployed and in 17 per cent of cases, another member of the family was unemployed. In general, if people had experienced unemployment, they were more likely to be found in households that possessed an underground-orientation. Superficially, therefore, such a finding appears to reinforce the marginality thesis. However, before doing so, what needs to be considered is that a high percentage of households with an underground-orientation (57 per cent) were not unemployed. Indeed, some 47 per cent were employed full-time, of which 30 per cent were in state enterprises, 28 per cent in new private enterprises, 21 per cent were public servants and 16 per cent in privatized enterprises.

Table 6
Socio-economic composition of 'underground-orientated' households compared with formal- and community-orientated households, 1998

Characteristic	Formal	Community	Underground
<i>Unemployment</i> (n=10,531) Cramer's V=.106 p<.000			

Unemployed self	13	20	26
Other in family unemployed	16	16	17
No unemployment	71	64	57

Employment status (n=10,598)

Eta=.053; Cramer's V=.053 p<.031

Full-time employed	46	34	43
Part-time employed	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

Job sector (n=5,235)

Cramer's V=.120 p<000

Public servant	20	19	21
State enterprise	36	34	30
Privatized enterprise	18	18	16
New private enterprise	20	15	28
Collective farm	5	8	3
Independent farmer	1	6	2

Source: Wallace et al (2004: Table 10)

Similarly, with regard to the marginality thesis, Table 7 reveals that of all households who rely on the underground sphere to secure their livelihood, some 18 per cent are in the lowest quartile of the population so far as income are concerned. This is important because it displays that households who have an underground orientation are not concentrated in the lowest-quartile income echelons of these societies. Indeed, quite the opposite is the case. Such households are relatively concentrated in the more affluent segments of the population. Reliance on the underground

sphere, in consequence, does not correlate with a relatively low-income in East-Central Europe.

To identify a scale of deprivation, meanwhile, the NDB survey asked the following question: ‘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 in Table 7 was constructed by combining these responses. Analyzing the responses, it can be seen that households orientated towards the underground sector are less lacking than other household-types in terms of this deprivation scale. They are broadly equivalent to those who are formally orientated and better off than those more orientated towards subsistence work and unpaid community exchange.

A similar pattern is found when the number of these consumer goods possessed by the different household-types is examined. Those dependent upon the community sector have the least number of consumer goods, while those dependent on the formal and underground economies have the largest number, but here those underground-orientated households outstripped formally orientated households. It might be tentatively concluded, in consequence, that underground-orientated households are getting-by to a better extent than their formal-orientated counterparts in East-Central Europe, at least so far as the acquisition of consumer goods is concerned.

Table 7

**Primary sphere relied on by households in East-Central
Europe: by household income, 1998**

	Forma l	Community	Undergroun d
<i>Household income</i>			
<i>quartile</i>			
Cramer's $V=.083$ $p>.000$			
First quartile	22	32	18
Second quartile	25	25	22
Third quartile	26	24	27
Fourth quartile	27	19	33
<i>Destitution Scale</i>			
(n=10,642)			
Cramer's $V=.094$ $p<.000$			
1 Never deprived	44	36	45
2	10	8	10
3	11	11	11
4	9	12	10
5	7	7	6
6	6	6	5
7	6	9	6
8	3	3	3
9	2	4	2
10 Often deprived	2	4	2
<i>No. of consumer goods possessed (n=9,732)</i>			
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

Source: Wallace and Haerpfer (2004: Table 11);

Conclusions

Until now, most attempts to provide cross-national comparative evaluations of the importance of the underground sector have employed indirect survey methods (e.g., Friedmann et al, 2000; ILO, 2002; Lacko, 1999; Schneider, 2001, Schneider and Enste, 2002). The problem, however, and as has been highlighted in this paper, is that there is emerging a consensus that such indirect survey methods are unreliable and inaccurate as measures of the underground sector. Instead, the groundswell of opinion is that direct survey methods are more appropriate and reliable tools. The major problem until now, nevertheless, has been that few direct surveys have provided comparable cross-national data on the importance of the underground sphere. Here, one of the few such studies to have been conducted has been thus reported, namely the New Democracies Barometer (NDB) survey.

Examining the importance of the underground sector in eleven countries in East-Central Europe in the years 1992, 1994, 1996 and 1998, this survey reveals that some 6 per cent of households cite that the fruits of their underground work is the primary source of livelihood for their household and a further 22 per cent rely on this sphere for their secondary source of support so far as their standard of living is concerned. Although the proportion of households that primarily relies on this sphere remained steady between 1992 and 1998, the proportion relying on it as their secondary means of livelihood increased, indicating that the underground sphere became more rather than less important to households in this decade after the collapse of the socialist bloc as their countries sought to make the transition to western-style market societies.

Interrogating whether it was indeed the case, as is commonly suggested, that it is those poor and marginalized segments of the population who have been off-loaded by the formal sphere, that find themselves reliant on the underground sector for their livelihoods, this paper has revealed that this was not the case in these East-Central European countries in this period. Indeed, and contrary to the narrative that underground work is a survival practice for those excluded from the formal sphere, it is here shown that households relying on underground work for their livelihoods cope just as well, if not better, measured in terms of their ability to acquire consumer goods, as those reliant on the formal economy in these post-socialist societies.

In sum, it is to be hoped that this reporting of the results of the NDB survey has revealed a potentially rewarding way forward for those seeking to measure the contribution of underground work. Until now, and despite the widespread consensus that the indirect survey method is unreliable and inaccurate, few direct surveys have so far attempted to fill the void and conduct cross-national comparative studies. Instead, such studies have continued to be conducted on a small-scale and to be qualitative surveys that unpack in rich detail the role of underground work in people's everyday lives. Hopefully, this paper will encourage some to consider scaling-up the direct survey method and applying this method to cross-national comparative studies. The NDB survey provides an indicator of one way in which this might be achieved. Indeed, it would be fascinating to know whether the populations of the so-called advanced western 'market' economies are really so dependent on 'the market' as is often assumed. Applying such a survey method to western societies would certainly provide some potentially salutary evidence of whether or not this is indeed the case. Hopefully, therefore, this paper will encourage others to pursue such scaled-up direct survey methods not only to up-

date the NDB survey in East-Central Europe so as to identify the continuing trajectory of change but also to test out some widely held beliefs about the nature of western economies.

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