

SOCIAL SECURITY, POVERTY AND ECONOMIC TRANSITION:

AN ANALYSIS FOR BULGARIA 1992-96

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ABSTRACT The paper addresses the issues of poverty and social security in a transitional environment on the basis of recent economic developments in Bulgaria. Special emphasis is placed on the need for a new type of social safety net stemming from the radical changes in the political and economic system. The evolution of the social security system in Bulgaria during the transition is analysed focusing on such elements as the pension system, unemployment benefits, child allowances, etc. The empirical analysis is based on extensive use of data from the Bulgarian Household Budget Surveys during the period 1992-1996. Poverty in Bulgaria is measured using different poverty measurements and some quantitative results showing the changing dimensions of poverty in the transition period are presented and discussed in the paper.

KEYWORDS Bulgaria, economic transition, poverty.

JEL CLASSIFICATION D31, J31, P24

1. Introduction

Economic transformation effectively started in Bulgaria in 1991 when the country launched a stabilisation programme similar to those launched in Poland in 1990 and Czechoslovakia in 1991. It envisaged price liberalisation, the opening up of the domestic economy and foreign trade, with the abolition of central planning and the free entry of private economic agents to the market. Given limited foreign exchange reserves and isolation from international financial markets because of debt default, Bulgaria opted for a floating exchange rate and money-based stabilisation. The stabilisation programme envisaged control over the growth of the money supply (as the main nominal anchor) while income control - via regulated wages in the public sector - played a supporting role as a second nominal anchor. Subsequently, a combination of political instability, a lack of public consensus over the course of reforms and stop-go policy measures impaired the process of transition, resulting in a poor and uneven economic performance. A deep recession in the initial phase was followed by a weak and fragile recovery in 1994-1995, prior to a deep recession in 1996. Only in 1997 was greater political stability achieved and a new momentum to the reform programme established.

The aim of this paper is to analyse the changes in the extent and incidence of poverty among private households in Bulgaria during the turbulent period 1992-1996. The organisation of the paper is as follows; in section 2, we summarise the main events of the transitional period to date; section 3 then describes the provisions for social protection that were in existence at the start of the transitional period, and the changes that have been made to the social security system since. Section 4 gives some details of the Bulgarian household budget survey data that we use for the analysis, and section 5 gives the results of a first attempt to measure the extent of poverty within particular social groups and the contribution of different groups to overall poverty. The analysis here parallels the work of Hancock and Pudney (1996) on Hungary, to permit cross-

country comparisons to be made. Section 6 summarises our conclusions.

2. The process of economic transformation in Bulgaria

2.1. MACROECONOMIC POLICIES

The first phase of economic transformation in Bulgaria was typified by slow reforms and inconsistent economic policies. Political instability and stop-go policy implementation contributed to this, resulting in a poor economic performance in this period. The consequences of this are summarised in Table 1, below. Although a deep recession initially was followed by a weak, fragile recovery in 1994-1995, a deep recession hit in 1996. There was a chronic budget deficit, monetary policy was largely accommodating of this and thus Bulgaria failed to achieve a steady disinflationary path.

Given Bulgaria's dependence on the CMEA for trade, the collapse of this trade saw Bulgaria's exports more than halve in the early years of transition. This occurred mainly in manufacturing and led to a large number of state-owned industrial firms experiencing serious financial problems. It was aggravated by many enterprises having obsolete physical assets, making them unsuited to competition in a free-market. Not until 1996 was any serious attempt made to impose hard budget constraints on these firms. In the meantime, poor financial discipline had become endemic and the soft budget constraints discouraged restructuring. This policy approach resulted in increasing amounts of public resources being wasted. Moreover, the resulting erosion of the net present value of aggregate productive assets during the period 1993 to 1995 amounted to over 50 per cent of average annual GDP in that period (Dobrinsky, 1998).

Table 1: Bulgaria: selected macroeconomic indicators

(average annual percentage rates of change, unless otherwise indicated)

	1991	1992	1993	1994	1995	1996	1997
Gross domestic product	-11.7	-7.3	-1.5	1.8	2.9	-10.1	-6.9
Gross industrial output	-22.2	-15.9	-10.9	8.5	5.0	-8.3	-10.2
Total employment	-13.0	-10.4	-1.6	0.6	1.3	-0.1	-2.7
Unemployment rate (% endperiod)	11.1	15.2	16.4	12.8	11.1	12.5	13.7
Consumer prices (annual average)	338.5	91.3	72.9	96.2	62.2	123.1	1083.0
Average real wages and salaries ^b	-39.0	5.8	-8.7	-21.8	-5.5	-21.7	-12.4
Money supply (M1) ^a	24.2	40.7	27.3	55.5	43.6	119.3	868.0
BNB basic interest rate (%)	56.5	58.2	58.1	81.8	59.8	245.8	137.1
Current account deficit/(surplus) (% of GDP)	0.9	4.2	10.2	0.3	0.2	(0.8)	(4.4)
Merchandise exports (mn USD)	3279	3922	3721	3985	5355	4890	4914
Merchandise imports (mn USD)	2647	4468	4757	4185	5658	5074	4886
Exchange rate (BGL/USD, average)	16.7	23.3	27.6	54.2	67.1	177.5	1682

Notes: ^a December over December; ^b Without private sector

Source: National Statistical Institute; Bulgarian National Bank

2.2. STRUCTURAL CHANGES

Transition brought about significant changes to the structure of the Bulgarian economy. Figure 1 shows the composition of GDP over time. One notable feature is the rising share of agriculture in recent years. Table 2 shows employment by sector. Whilst the changes are less dramatic, the rise in the share of agriculture and the decline in manufacturing is confirmed.

Figure 1: GDP Shares, %, 1991 to 1997

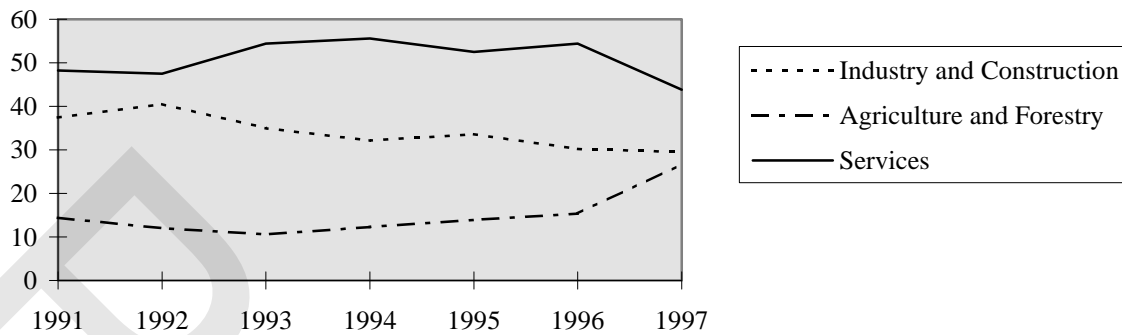


Table 2 Breakdown of total employment by main sectors, %

	1991	1992	1993	1994	1995	1996	1997
Mining and manufacturing	34.5	32.6	30.4	29.1	28.1	27.5	27.3
Construction	7.1	6.2	6.5	5.9	5.7	5.1	4.9
Agriculture	19.1	20.7	21.7	22.8	23.4	23.9	23.8
Forestry	0.5	0.5	0.4	0.4	0.4	0.5	0.5
Transportation	6.2	5.9	6.1	5.8	6.3	6.1	6.1
Communications	1.2	1.3	1.4	1.4	1.4	1.4	1.4
Wholesale and retail trade	9.6	10.0	10.3	11.4	10.9	10.9	11.2
Other Services	21.8	22.6	23.3	23.2	23.9	24.6	24.8

Source: National Statistical Institute

One of the most important developments during this restructuring was the growth of the private sector, representing 42% of all employment in 1996 (Table 3). The private sector in Bulgaria has increased considerably in recent years, although at a slower pace than in the central European transition economies (ECE 1996, page 70). It was also the most dynamic sector of the economy: according to reports of the National Statistical Institute (NSI, 1997). In 1995, the private sector made up roughly one third of the economy, but contributed about two-thirds of the

economic growth in that year.

By 1996 the private sector had come to dominate trade and agriculture (the latter assisted by the process of land restitution, initiated in 1992) and was increasingly important in construction and transportation. Because of the uneven evolution of the private sector, however, the structure of private employment is still distinctly different from that in the public sector. By 1997, the private sector contributed 58.8% of Gross Value Added, 11.2% from industry, 22.7% from agriculture and 24.9% from services. It should be noted, however, that the weakest part of the reform process in Bulgaria has been the privatisation of formerly state-owned enterprises suggesting that, in some sectors at least, much of the private sector is made up of new enterprises. Only in 1996 was a mass privatisation scheme introduced, based on vouchers and similar to the scheme used in the Czech Republic.

Table 3 Share of private sector in total employment, %

Sector	1992	1993	1994	1995	1996
Mining and manufacturing	1.2	2.4	3.6	4.4	4.6
Construction	0.9	2.2	2.5	2.9	2.9
Agriculture	9.7	14.4	17.9	19.6	20.7
Forestry	-	0.0	0.0	0.0	0.0
Transportation	0.5	1.2	1.3	2.2	2.1
Communications	-	0.0	0.0	0.0	0.0
Wholesale and retail trade	4.4	5.8	7.8	7.9	8.1
Other Services	1.0	2.3	2.9	0.8	0.8
<i>Total</i>	17.7	28.3	36.0	40.6	42.0

Source: National Statistical Institute

3. The state budget and the social security system in Bulgaria

Table 4 summarises recent developments in the state budget. From 1994 to 1996, the deficit is seen to come from a primary surplus more than offset by interest expenditures. Moreover, within the non-interest budget surplus, the Social Security Fund (consisting mainly of pensions and unemployment insurance) has been running a chronic deficit. Bulgaria has already missed one opportunity for a fundamental reform of the revenue side of the social insurance system. Several authors have recommended the transfer of privatisation receipts (Jenkins, 1992) or publicly-owned real assets like land (Pudney, 1995) to the social insurance fund to create a funded pension system, generating extra investment income for the pension fund. This approach has been ruled out by the privatisation policy adopted.

The alternative is to consider reforms that reduce social security expenditure, but do not impair seriously the principal objective of protecting vulnerable individuals from poverty. Two main elements are needed for this: a) a detailed identification of the population groups that are, or might become, affected by poverty, and b) a reform of the rules governing benefit payments to reduce expenditure, avoiding as far as possible the groups identified as vulnerable.

Before 1989 the social security system was "pay-as-you-go", typical of a centrally planned economy. The state budget absorbed surplus funds and covered deficits. Child care and sick leave support and benefits were well developed, although there were practically no provisions for unemployment and social assistance was limited. Since 1991 the system has changed substantially and it currently contains three major components plus the Child Benefit system (see IMF 1996).

Table 4 The state budget during transition (% of GDP)

	1990	1991	1992	1993	1994	1995	1996
Revenue	52.8	39.3	38.7	37.2	38.3	36.0	33.6
Tax revenue, of which	42.4	36.4	34.7	32.1	34.1	31.4	29.3
Profit tax	17.9	17.2	8.3	5.4	7.2	5.6	5.8
Income tax	4.2	3.3	5.4	5.0	4.3	4.2	4.2
VAT and excise taxes ^a	9.0	7.1	6.1	7.3	10.3	9.5	8.6
Customs duties	1.0	1.1	2.0	3.0	2.7	2.5	2.3
Social insurance contributions	9.6	7.6	10.7	10.1	8.5	8.0	7.3
Other tax revenue	0.7	0.1	2.1	1.3	1.1	1.7	1.0
Non-tax revenue, of which	10.4	2.9	4.0	5.1	4.2	4.6	4.3
Extrabudgetary accounts	-	-	0.4	2.1	0.5	0.7	0.5
Non-interest expenditure	52.5	36.6	37.5	38.8	30.9	27.5	23.8
Current expenditure, of which	49.4	34.8	35.0	36.8	29.4	26.3	23.1
Wages and salaries	5.5	4.9	6.1	6.4	5.0	4.6	3.7
Maintenance and operations	12.2	9.1	10.4	7.1	6.7	5.8	5.3
Defence and security	4.8	3.8	2.3	4.0	3.5	3.6	3.4
Subsidies	14.9	3.9	2.0	2.2	1.3	1.1	0.9
Social insurance expenditure	12.0	13.2	14.2	15.1	12.5	10.9	9.6
Extrabudgetary accounts	-	-	-	2.1	0.4	0.4	0.2
Investment	3.1	1.8	2.5	1.9	1.5	1.1	0.8
Primary balance	0.3	2.7	1.3	(1.5)	7.4	8.6	9.8
Domestic interest	0.7	6.0	4.8	8.3	11.7	11.4	17.9
Domestic balance	(0.4)	(3.3)	(3.5)	(9.8)	(4.3)	(2.9)	(8.1)
External interest	8.8	11.9	1.6	1.0	1.2	2.8	2.9
Deficit (consolidated government)	(9.1)	(15.2)	(5.2)	(10.9)	(5.5)	(5.7)	(10.9)

Source: Ministry of Finance

Note - a: Turnover Tax prior to 1st April 1994

The social security system is financed by payroll contributions of 35% to 50% of the gross wage (depending on the type of worker) and is paid by employers, or by the self-employed themselves. Since 1995 the Social Security Fund has been formally separated from the state budget, but in practice the budget continues to finance its persistent deficit. The current rules governing the amounts of benefits payable to households are summarised in Tables 5-7. Note that average public sector earnings per full-time worker in 1995 was 7460 leva per month.

3.1. PENSIONS

Pensions are by far the largest expenditure item of the Social Security Fund, despite their modest levels (in 1993, the average pension was 33.7% of the average wage). Even so, the pension system is in chronic deficit. There are several reasons for this. Typical of transition economies, Bulgaria has a low retirement age of 60 for men and 55 for women in "normal" occupations, with earlier retirement (at ages 57/52 and 52/47) for workers in certain categories of heavy or dangerous labour. The ratio of pensioners to employed in 1994 was 78%, one of the highest ratios in the world.

Compared to other social security benefits, pensions have been favourably treated in terms of inflation-protection. Over 1994-5, the basic pension was increased by nearly 170%, whilst Unemployment Benefit was increased by 95% and (single) Child Benefit by a little over 90%. Even so, there was a real fall as the CPI rose by 195% over the same period. This fall in the real value of the pension was slightly less than the 29% fall in the real average wage, although from a much lower base.

A major reform of the Bulgarian pension system is planned for 1999. It envisages a gradual replacement of the pay-as-you-go system by a three-pillar funded pension system.

Table 5 Rules of the main social security benefits and changes 1990-96 (Leva per month)

Date	Minimum wage (lv)	Average wage (lv)	Price compensation	Total	Unemployment Benefit ¹	Child benefit ²	Social pension	Pension ³	Pension addition
1990	Jan	140							
	Jul	165							
	Dec					+ 13 Lv		+ 16 Lv	
1991	Jan				+ 27%	+ 32 Lv		+ 40 Lv	
	Feb	165		270	+ 270 Lv			+ 182 Lv	
	Apr	165	683	353	+ 19%	+ 40 Lv		+ 254 Lv	
	May	165	768	340	+ 16%			+ 247 Lv	
	Jun	165	850	455	+ 455 Lv			+ 250 Lv	
	Jul	620	900						
1992	Apr		1728					P = P ₁ ⁴	
	Jun		2022				450		
	Jul	850	2007			+ 170 Lv			
	Dec	850	2693						
1993	Jan	890	2248					+ 30 Lv	
	Mar	1200	2832		+ 316 or 280 Lv	+ 200 Lv			+ 80 Lv
	Jul	1343	3181		+ 11.9%	+ 224 Lv			
	Oct	1414	3433		+ 5.3%	+ 236 Lv			
1994	Jan	1565	3589		+ 10.7%		780	+ 73.3%	+ 280 Lv
	Jul	1814	4686		+ 15.9%	+ 302 Lv	866	+ 11%	
	Oct	2143	5162		+ 18.1%	+ 357 Lv			+ 430 Lv
1995	Apr	2450	6690		+ 14%	+ 410 Lv	1130	+ 30.5%	+ 430 Lv + 140 Lv
	Jul	2555	7336		+ 4.6%	+ 428 Lv			
	Sep		8527				1210	+ 7%	+ 430 Lv + 140 Lv
	Oct	2760	7811		+ 8.1%	+ 465 Lv			
1996	Apr	3040	9524				1800	P = P ₂ ⁵	
	Oct	3340	17225						

Note 1: Unemployment benefit - period of eligibility = 6-12 months (depending on duration of past employment). Initial level of unemployment benefit U = 60% of gross wage (subject to minimum = 90% of minimum wage; maximum = 140% of minimum wage). From this, subsequent changes were made as shown in the table.

Note 2: The initial level of child benefit C = 15 Leva for 1st child; (30 Lv if more than 1 child in household); 30 Lv for 2nd child; 55 Lv for 3rd child; 15 Lv for each additional child. Subsequent changes were made as shown in the table.

Note 3: Pensions are payable only to people with full Bulgarian residence rights. Three periods of pension levels are identified. The initial pension level is shown in detail below. Subsequent changes made are shown in the above table relative to these levels. Until....

Note 4: From April 1992, the pension was set equal to Social pension + [1 + 0.01 years of employment] × indexed best 3 years' gross wage (subject to a maximum of 3 × Social pension). Subsequent adjustments are shown in the table. Until....

Note 5: From April 1996, the pension was set equal to 55% of gross wage (indexed best 3 Years) (subject to a maximum of 3 × Social pension).

Initial Pension Level		
Gross Wage	Pension as % of gross wage	Minimum Pension
Under 60 lv	80%	70 lv
60-80 lv	75%	70 lv
80-100 lv	70%	70 lv
100-120 lv	65%	70 lv
120-220 lv	60%	78 lv
Over 220 lv	55%	132 lv

3.2. THE UNEMPLOYMENT AND VOCATIONAL TRAINING FUND

Unemployment benefit (UB) was introduced in 1990. In principle its costs are met from the Unemployment and Vocational Training Fund (UVTF), which is financed mainly by payroll contributions amounting to 7% of the gross wage bill. The fund provides unemployment benefits as well as employment services (such as vocational training and other active labour market policies). The duration of unemployment benefits ranges from 6 to 12 months depending on age and the duration of past employment and tends to favour older workers (Table 6).

Table 6 Eligibility for receipt of unemployment benefit

<i>Duration of past employment (years)</i>	<i>Age</i>	<i>No. of months of UB entitlement</i>
< 5	all ages	6
≥ 5	< 40	7
≥ 5	≥ 40	8
≥ 10	≥ 45	9
≥ 20	≥ 51 (men)	10
≥ 20	≥ 51 (women)	12
≥ 25	≥ 56 (men)	12

The benefit payable is 60% of previous earnings (with an upper limit of 140% of the minimum wage) but, with inflation, the income replacement ratio in 1995 was just 25% , with only 30% of unemployed receiving benefit (ESE, 1996). Recently there was a policy shift towards a more active labour market policy. Through 1995, Spending on such policies rose from 14.2% of total UVTF spending in January to 39.8% in November.

3.3. CHILD-RELATED BENEFITS

Maternity and child allowances are modest but the duration of maternity leave is generous and employment cannot be terminated during this leave. The system entitles an employed mother to 120 days¹ maternity leave on full pay from her employer during the period up to the child's second birthday. Of this, 45 days can be taken before the birth. If she wishes, the mother can take a third year of leave, with her job kept open, during which time she receives a small fixed sum paid from the Social Security Fund rather than her employer.

Separate from this is Child Benefit, paid by the Social Security Fund (described in Table 5). This entails payments dependent only on the number of children. The rules initially were unusual, providing a steeply increasing marginal payment for each of the first three children, then a small marginal benefit thereafter, rewarding moderately large families. However, the fixed supplements per child added since to (partly) offset inflation have diluted this effect. In 1995, among families with children, Child Benefit amounted to 3.35% of household income (calculated from the Household Budget Survey).

3.4. SOCIAL ASSISTANCE PROGRAMMES

Most social assistance programmes were introduced in 1991 in a "social safety net" system. Financing comes from the state budget and includes financial support for households and individuals without other sources of income (and who are below a certain poverty line) and providing homes for the elderly, disabled, orphans etc. The level of assistance is low and the eligibility of individuals and households is closely monitored by the authorities. As is typical of this type of system, the Bulgarian system has many complexities in treating special cases, but the

¹ 150 days for a second child, 180 days for a third and 120 days for subsequent children.

core of the system is summarised in Table 7. There is a prescribed subsistence level of income, with payment made to eligible households to bring them up to this level. Between 1992 to 1996, subsistence income was increased by a factor below consumer price inflation. Between mid 1992 and mid 1995, prices rose nearly 5-fold, while the prescribed subsistence income was raised less than 3-fold. There is a striking contrast between this and the relatively favourable treatment of pensions. It is interesting to note that the adult equivalent scale built into the system is very similar to the OECD scale we use below, but gives slightly less weight to children.

Table 7 The Bulgarian system of social assistance

<i>Base subsistence income</i>		<i>Basic formula for social assistance payments:</i>	
<i>(Lv. per month)</i>			
1992	Jul	500	Payment = Subsistence household income
1993	Jan	550	- Actual household income
	Mar	750	Subsistence household income = No. of equivalent persons
	Jul	840	× base subsistence income
	Oct	885	
1994	Jan	940	<i>Equivalence scale:</i>
	Oct	1225	Living alone 1.0
1995	Apr	1400	Married couple 1.8
	Jul	1460	Unmarried child over 18, living with parents 0.7
	Oct	1600	Parent living with unmarried child 0.7
1996	Apr	1800	Unrelated adult living with household 0.9
			Child under 18 0.4
			Child under 16 with serious disability 0.8

4. The Bulgarian Household Budget Surveys

4.1. SAMPLE UNIT AND SCOPE OF THE SURVEY

The household budget survey (HBS) in Bulgaria is conducted annually by the National Statistical Institute. The sample unit is the private household, defined as:

- (i) a person living independently, who eats separately and with own budget; or
- (ii) two or more persons who share the whole or part of a dwelling, who eat together and have a common budget, irrespective of kinship.

Persons who are temporarily absent: children, pupils, students, persons carrying out their military service and those receiving temporary medical treatment in hospitals, sanatoria etc, are also considered members of a household. Persons who have left and established their own household and also those who have permanently joined residential institutions are not considered as members of a household. The HBS does not cover the institutional population.

The HBS questionnaire gives information on: household composition and socio-demographic characteristics of members; numbers of days at work and absence from work due to illness for all workers in the household; amounts of money and in-kind income by sources; amounts of money and in-kind expenditures by uses; purchased amounts of food products and some non-food goods; goods produced and consumed by the household; and the number, turnover and production from household animals.

4.2. SELECTION AND SUBSTITUTION OF THE HOUSEHOLDS

The size of the annual HBS sample is 2508 households from 418 sites for 1988-1992. There were some changes in 1993 and in the middle of 1994 an additional 3600 households from 600 sites were included in the sample; the detailed figures are presented in Table 8. The number of sites and households is distributed proportionally by regions, and in them - by towns and

villages depending on the number of households (based on the latest census enumeration).

Table 8 Coverage of the Bulgarian HBS

Period	No of households	No. of sites		
		Total	Urban	Rural
1988 - 1992	2508	418	270	148
1993	2508	418	271	147
1994, Jan - Jun	2508	418	271	147
1994, Jul - Dec	6108	1018	683	335
1995 - 1996	6000	1000	676	324

Source: National Statistical Institute

4.2.1. SAMPLE DESIGN

The sample design is a two-stage random sampling procedure based on the territorial principle, as follows.

- (i) At the first stage a set of census enumeration districts is chosen. The districts to be included in the set at the first stage are selected with probability proportional to their size.
- (ii) At the second stage households for study are determined. First the list of households in each selected site is drafted. This is sorted in ascending order depending on the number of members of the household. The last variable (size of the household) has a close correlation with the studied variables: income, expenses and consumption per capita. The households from each site are selected from the lists using systematic sampling with an appropriate sampling interval.

4.2.2. SUBSTITUTION

Participation in HBS is voluntary. Each randomly selected household that does not wish

or is not able to collaborate with the study is substituted with one having the same number of members. More detail on the substituted households is given in Table 9. This shows a non-response rate of 20-35%, fairly typical for this type of survey. In the case of substitution the interviewer must fill in a “form of substitution” and, when a household refuses to participate in the survey - the reasons for doing so. In our analysis, we exclude from the sample all households which participated for less than 12 months, either because they were substitutes or because they ceased co-operating. This reduces the impact of complications introduced by seasonality and the need to adjust for the high rate of within-year inflation, although there may be difficulties in the case of those who are employed only for part of the year.

4.3. METHODOLOGY AND TIMING OF THE SURVEY

The method of the survey enquiry is self-recording by a member of the sampled household, combined with an interview. Households record daily information on:

- all money expenses for food and non-food products, services and other;
- all money income from wages and salaries, social insurance, sale of produce from household plot and other sources;
- income in-kind and consumption of food and non-food products;
- data on the members of the household and changes in the household or its members.

Diaries are kept for a whole year, avoiding problems associated with within-year inflation. Interviewers attend a household at least twice per month. They carry out a detailed interview with members of household and check for completeness and reliability of records in the diary.

Table 9: Substitutions in the HBS Sample, 1993-1996

	1993		1994 (Jan-Jun)		1994 (Jul-Dec)		1995		1996	
	Number	Weight	Number	Weight	Number	Weight	Number	Weight	Number	Weight
Selected in HBS sample:	2508	100.0	2508	100.0	3600	100.0	6000	100.0	6000	100.0
Not substituted	1681	67.0	1649	65.8	2929	81.4	3849	64.2	3724	62.1
Substituted during the year - total	827	33.0	859	34.2	671	18.6	2151	35.9	2276	37.9
Substituted after the beginning of the survey	177	7.1	154	6.1	65	1.8	388	6.5	389	6.5
Substituted before the beginning of the survey	650	25.9	705	28.1	606	16.8	1763	29.4	1887	31.5
Of which										
Did not live at indicated address	306	12.2	262	10.5	170	4.7	296	4.9	360	6.0
In poor health	111	4.4	127	5.1	127	3.5	303	5.1	286	4.8
Did not believe the purposes of the survey	79	3.2	103	4.1	120	3.3	361	6.0	373	6.2
Refused due to time shortage	78	3.2	134	5.3	86	2.4	307	5.1	396	6.6
Doubt in keeping anonymity	31	1.2	36	1.4	49	1.4	109	1.8	73	1.2
Insufficient fee for participation	22	0.9	8	0.3	18	0.5	77	1.3	125	2.1
Other reasons	23	0.9	35	1.4	36	1.0	310	5.2	274	4.6

Source: National Statistical Institute

4.4. CHARACTERISTICS OF THE HBS SAMPLE

Selected characteristics of the Bulgarian HBS are given in Tables 10-12.

Table 10 Number of surveyed persons in households by economic activity and age

	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Composition by economic activity</i>									
Employed	46.1	45.9	45.2	39.9	37.2	35.1	35.8	34.8	35.6
Unemployed					4.3	7.4	8.7	9.8	9.5
Economically inactive	53.9	54.1	54.8	60.1	58.5	57.5	55.5	55.4	54.9
- Receiving income	25.4	26.2	24.2	28	32.3	31.4	30.3	29.6	29.5
- Not receiving income	28.5	27.9	30.6	32.1	26.2	26.1	25.2	25.8	25.4
Total	100	100	100	100	100	100	100	100	100
<i>Composition by age</i>									
Under 16 years	19	19.4	19.7	19.8	18	18.4	17.8	18.4	17.8
Men 16-59 years	27.2	27.4	28.9	28.6	27.9	27.5	28.9	28.6	28.1
Men 60 and more	10.4	10.7	9	9.5	10.2	10.4	9.9	9.9	10.2
Women 16-54 years	25.9	25.4	27.1	27	26.7	26.8	26.8	26.9	27.3
Women 55 and more	17.5	17.1	15.3	15.1	17.2	16.9	16.6	16.2	16.6
Total	100	100	100	100	100	100	100	100	100

Source: National Statistical Institute

Tables 11 and 12 detail the change over time in the composition of income and expenditure of the HBS households. Over time, the importance of agricultural smallholdings has increased dramatically, with the share of (imputed) income coming from household production rising markedly. Most of this increase is not marketed: when the imputed value of home produced food is added to food expenditure, the budget share of food rises from 39% to 48% in

1996. Another striking feature of income trends is the huge fall (from 59% to 40%) in the share of earnings in household income, offset partly by a rise in "other net revenues", which includes receipts from insurance policies, gifts, lottery winnings and net borrowing.

Table 11 Gross household incomes by sources

	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Money incomes</i>									
Total	100	100	100	100	100	100	100	100	100
- Wages and salaries	66.3	64.1	65.4	58.7	58.3	55.8	54.4	55.1	52.1
- Other than wages and salaries	0.7	0.7	0.5	0.5	2.7	3.1	3.8	4.3	4.7
- Pensions, allowances & scholarships	23.9	24.4	21.5	29.4	27.1	28.2	27.1	25.0	25.0
- Household plot	4.6	5.2	5.0	3.8	3.8	3.8	4.3	5.4	5.6
- Other net revenues	4.5	5.6	7.6	7.6	8.1	9.1	10.4	10.2	12.6
<i>Total incomes</i>									
Total	100	100	100	100	100	100	100	100	100
- Wages and salaries	58.7	55.9	57.3	45.4	44.3	42.9	38.2	38.0	39.5
- Other than wages and salaries	0.6	0.6	0.4	0.4	2.1	2.5	2.8	3.0	3.6
- Pensions, allowances & scholarships	21.1	21.2	18.8	22.7	20.7	21.6	19.0	17.2	19.0
- Household plot	13.5	14.7	14.7	21.4	21.2	20.2	25.9	27.6	22.6
- Other net revenues	6.1	7.6	9.4	10.1	11.7	12.8	14.1	14.2	15.3

Source: National Statistical Institute

Table 12 Household outgoings by uses (% of total)

	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Cash expenditure</i>									
- Foods	34.1	32.3	30.2	39.3	38.0	36.8	38.8	39.8	43.0
- Spirits	1.9	1.9	1.8	1.8	1.8	1.7	1.6	1.5	1.3
- Tobacco products	2.6	2.6	2.5	3.5	2.1	2.4	2.7	2.5	2.4
- Clothing and footwear	11.1	11.1	13.4	10.3	9.2	9.0	8.3	8.8	7.2
- Housing	8.0	8.1	8.0	8.4	8.1	8.9	8.3	8.0	9.9
- Furniture and equipment	5.1	5.2	4.9	3.6	4.4	4.4	4.1	3.8	2.7
- Culture and social life	3.9	4.2	5.2	3.9	3.7	3.6	3.1	3.1	2.3
- Hygiene	2.6	2.5	2.2	2.1	2.7	3.4	4.2	4.7	4.8
- Transport and communications	8.1	8.2	9.1	8.1	8.6	8.8	8.7	7.9	8.1
- Taxes and fees	7.9	7.9	7.7	7.3	9.5	8.8	8.3	8.2	7.6
- Other expenses	14.7	16.0	15.0	11.7	11.9	12.2	11.9	11.7	10.7
<i>Total expenditure</i>									
- Foods	39.5	38.1	36.3	47.4	43.4	42.9	45.0	46.3	48.2
- Spirits	3.4	3.4	3.3	3.2	2.3	2.1	2.0	1.8	1.8
- Tobacco products	2.3	2.3	2.2	2.9	1.9	2.2	2.4	2.2	2.1
- Clothing and footwear	9.9	9.9	11.9	8.6	8.3	8.1	7.4	7.8	6.5
- Housing	7.4	7.4	7.3	7.3	7.3	8.0	7.5	7.2	9.0
- Furniture and equipment	4.5	4.6	4.3	3.0	3.9	4.0	3.7	3.4	2.4
- Culture and social life	3.5	3.7	4.6	3.3	3.3	3.2	2.7	2.7	2.1
- Hygiene	2.3	2.2	2.0	1.8	2.5	3.0	3.7	4.1	4.4
- Transport and communications	7.2	7.3	8.0	6.7	7.7	7.9	7.7	7.0	7.2
- Taxes and fees	7.0	6.9	6.8	6.0	8.6	7.8	7.3	7.2	6.8
- Other expenses	13.0	14.2	13.3	9.8	10.8	10.8	10.6	10.3	9.5

Source: National Statistical Institute

5. The pattern of poverty in Bulgaria

5.1. POVERTY MEASUREMENT

Many different poverty measures have been proposed (see Atkinson (1989), chapters 1-2, for a survey). To ensure ease of interpretation and to avoid excessively obscure detail we use the one, most commonly-used measure: the individual headcount (see Hancock and Pudney, 1996, for its application to Hungary and for a comparison with other measures). Thus, for a poverty line L , poverty is measured here by the following index:

$$I(L) = \frac{E \left[z T \left(\frac{y}{s} < L \right) \right]}{E(z)} \quad (1)$$

z is the number of household members; y is the household resources measure, equal to post-tax income or total expenditure on consumption goods; s is an adult equivalence scale; L is a single poverty line appropriate to all family types after equivalisation; $T(y/s < L)$ is the indicator function equal to 1 if $y/s < L$ and 0 otherwise. In this study, the variable s is either the *per capita* scale, equal to the number of household members (z); or it is the *OECD* scale, equal to 1.0 for the first adult plus 0.7 for each additional adult plus 0.5 for each child under 14. The index (1) is a population measure, and in practice must be estimated from sample data. We use the natural sample analogue, which replaces the expectation in (1) by an unweighted sample mean.

In the following analysis, we use two alternative measures for y . One is income based and is defined as cash income net of direct tax and social insurance contributions plus the imputed value of income paid in kind plus the imputed value of consumption of home-produced commodities. The second is based on the expenditure diaries kept by households, and is defined

as total expenditure on consumption goods plus the imputed value of consumption of home-produced commodities and consumption of goods received as income in kind. Mean and median equivalised income and expenditure are given in Table 13. Expenditure is notably smaller than income on average, implying a savings rate of around 15% to 20%. This is a high saving rate for a period when real interest rates were often negative, although similar rates of household saving are found elsewhere in Eastern and Central Europe.

Table 13 Mean and median equivalised income and expenditure 1992-95 ('000 Lv. per year)

Household welfare measure		1992	1993	1994	1995	1996
Income per head	<i>Mean</i>	16.2	24.6	42.0	62.4	94.0
	<i>Median</i>	14.0	21.1	34.8	50.0	78.5
Income / OECD scale	<i>Mean</i>	20.0	30.1	51.1	76.0	114.7
	<i>Median</i>	17.7	26.7	43.5	63.4	98.5
Expenditure per head	<i>Mean</i>	13.9	21.5	35.2	50.3	86.6
	<i>Median</i>	12.3	18.9	31.1	43.8	76.0
Expenditure / OECD scale	<i>Mean</i>	17.3	26.4	43.2	61.8	106.4
	<i>Median</i>	15.6	23.4	38.6	54.3	93.8

Given this difference between income and expenditure, it is important to use both measures of household resources as a test of the sensitivity of our results to measurement conventions. All imputation is conducted by the National Statistical Institute. We can specify L either as a relative or an absolute poverty line. If we keep the poverty line constant in real terms (see Section 5.2) measured poverty increases over time given the large falls in real income over

the period. Alternatively we can specify L in relation to some characteristic (the median, say) of the current distribution of equivalised income or expenditure, producing a plot of measured relative poverty over time (Section 5.3). In either case, we can plot measured poverty against the poverty line, to give an idea of the sensitivity of the results to the choice of poverty line.

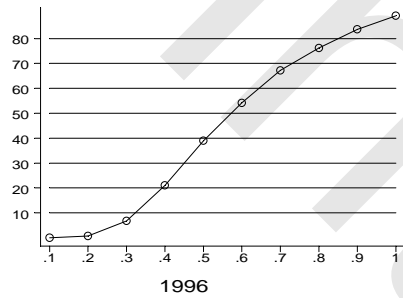
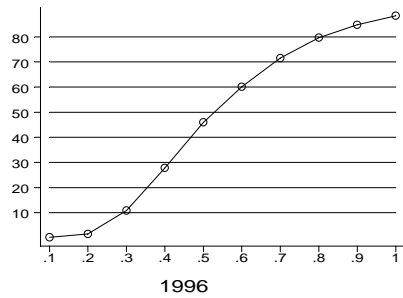
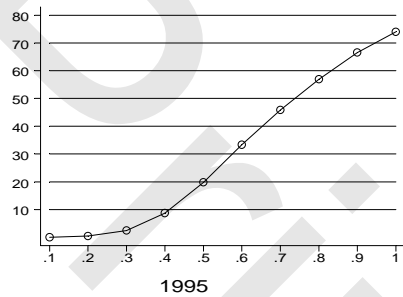
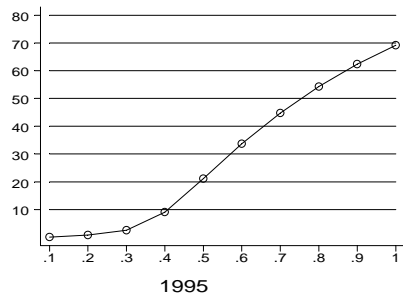
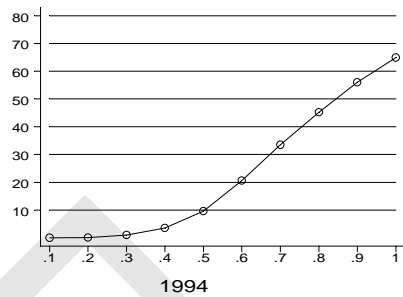
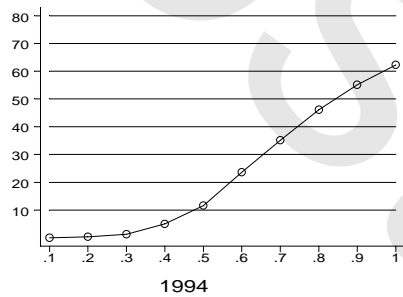
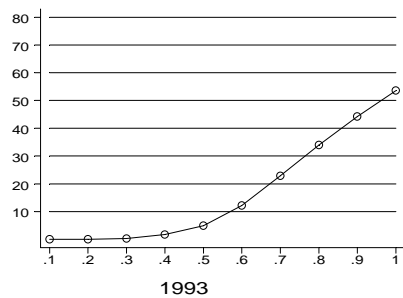
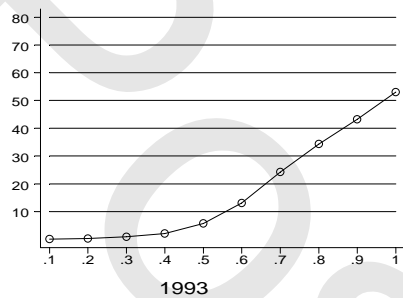
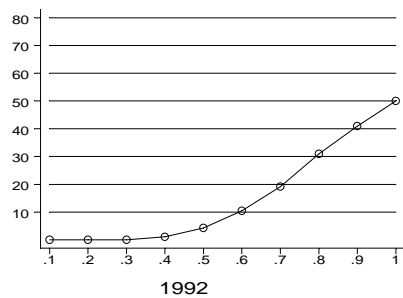
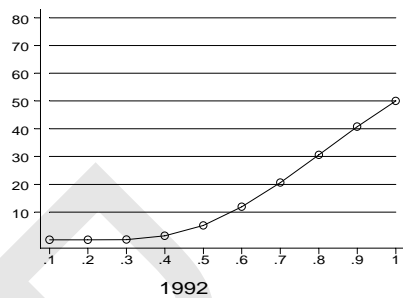
The analysis below proves not to be very sensitive to the choice of basic welfare indicator (Figures 1-5 below). There is a greater difference between the results obtained using the OECD equivalence scale and those obtained from the per capita scale. Using the per capita rather than OECD scale increases the proportion of large households recorded as being in poverty, thus reducing the poverty rate among pensioners (who tend to live in small households) relative to the poverty rate among families with children. We attach more weight to the results based on the OECD scale, since that assumes more realistically the existence of economies of scale at the household level. The OECD scale is broadly in line with the 'optimal' equivalence scales estimated for Poland by Szulc, 1999. Our findings for Bulgaria contrast with those of Hancock and Pudney (1996) for Hungary, where the use of income or expenditure and OECD or per capita scales are critical.

5.2. THE GROWTH OF POVERTY OVER TIME

Figure 1 plots the headcount index (1) against L , for the years 1992-6. The range of values considered covers 10%-100% of the 1992 median of equivalised income or expenditure. Each year's values are deflated back to 1992 prices using the year-average CPI (Table 1). This means that we are using an absolute poverty line, fixed initially in relation to the 1992 median. The result is of dramatically increasing poverty. If, for example, we take half the 1992 median as a poverty line, measured poverty is seen to increase from about 6% of households in 1992 to over 30% in 1996. A similar scale of increase is observed over different poverty lines, for both

income and expenditure resource measures. Figure 1 is based on the OECD equivalence scale, but similar results (not reported here) are found for the per capita scale.

Post-Print



Income; OECD scale

Expenditure; OECD scale

Figure 1: Income and expenditure-based poverty measures 1992-6
(OECD equivalence scale; 1992 prices; 1992 poverty line)

5.3. THE INCIDENCE OF POVERTY ACROSS GROUPS

In this section, we focus on three vulnerable groups of households, containing: pensioners; children; and the unemployed. These groups are not mutually-exclusive, so the decomposition is not additive. Indeed, the majority of households containing an unemployed person also contain children. Versions of the index (1) are constructed for each group and are implemented in two different forms. The first tells us the proportion of the target group classified as poor; the second tells us what proportion of the poor belong to the target group:

$$\hat{I}_1(L) = \frac{\sum_{i=1}^n t_i T\left(\frac{y_i}{s_i} < L\right)}{\sum_{i=1}^n t_i} \quad (2)$$

$$\hat{I}_2(L) = \frac{\sum_{i=1}^n t_i T\left(\frac{y_i}{s_i} < L\right)}{\sum_{i=1}^n T\left(\frac{y_i}{s_i} < L\right)} \quad (3)$$

where t_i is equal to 1 if household i contains at least one member of the target group (pensioners, unemployed or children), and 0 if not. Since this analysis is designed to provide a conditional description of the demographic profile of poverty, and since poverty is essentially a characteristic of the household, we calculate the indices on a household, rather than individual, basis. So, if our target group is the unemployed, expression (2) tells us the proportion of households containing an unemployed member which are poor, not the proportion of unemployed individuals who are poor, or the proportion of people living in households containing an unemployed person who are poor.

The distinction between these different forms of the poverty index is important. The proportion of unemployment-affected households which are poor may be very high, but the

frequency of unemployment may be low enough that unemployment contributes only a small proportion of total poverty. This has clear implications for the design of anti-poverty income-transfer policy. Some groups may contribute a sufficiently small amount to total poverty that government does not regard them as high priority groups, even though many within these groups may be in poverty. Figures 2-5 plot the two forms of the index against L (defined as a proportion of the current year's median income or expenditure). Note that the small subsample sizes involved (especially for 1992-94) make the results statistically unreliable for very low poverty lines. However, three important points emerge from the analysis:

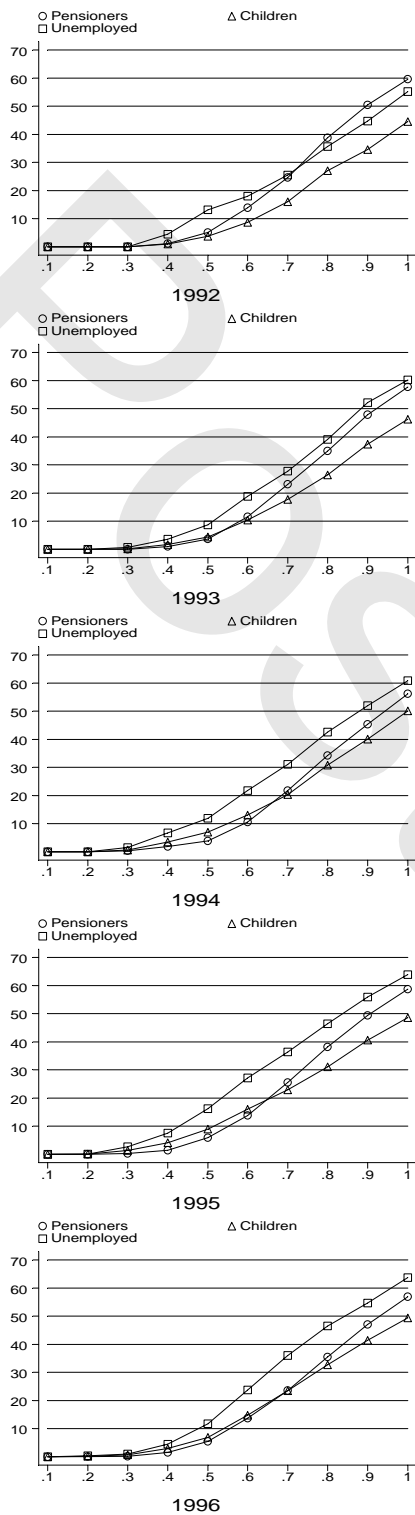
(i) For almost any reasonable relative poverty line, there is a higher rate of measured poverty within the group of households containing an unemployed member than there is within pensioner households, or those with children. Using the OECD equivalence scale, in 1992 the poverty rates for pensioners and children were similar, but the poverty rate for children rose faster over time, at least for poverty lines around 50% of the (current) median. The ordering of children above pensioners is more emphatic if we use the per capita equivalence scale.

(ii) When we turn to the contribution to total poverty of the three groups, the picture changes because of the different size of each group. First, consider the results using the OECD scale and conventional poverty lines close to 50% of the median. In 1992, pensioner households make a larger contribution to total poverty than households containing the unemployed, which in turn make a comparable or slightly larger contribution than households with children. This ordering is largely unaffected by the use of income or expenditure, but is sensitive to the choice of poverty line. Higher poverty lines put greater emphasis on pensioners as contributors to poverty. Conversely, households in very deep poverty tend to be those with the unemployed and/or

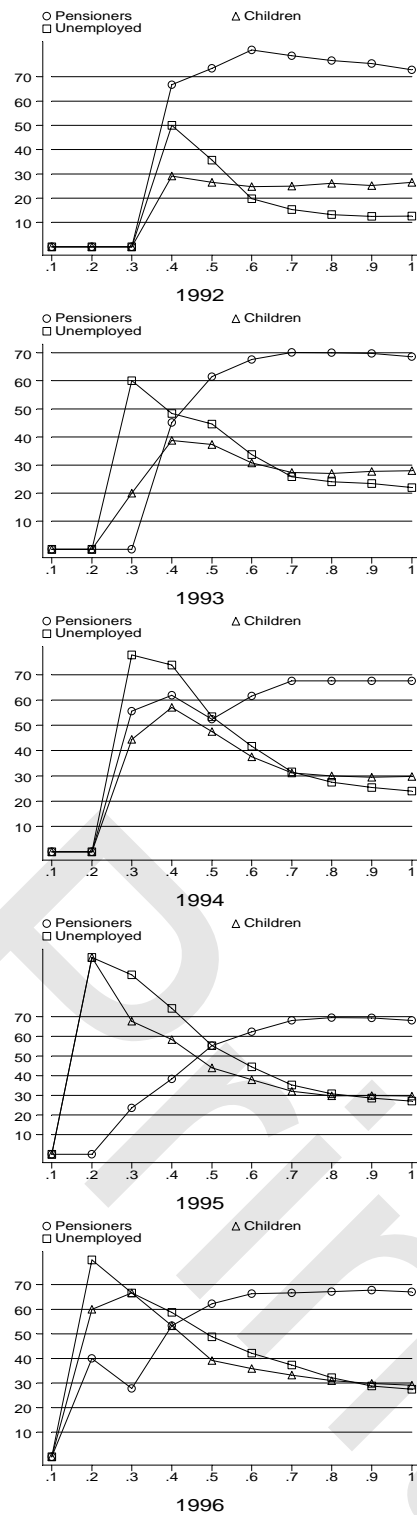
children. After 1992, this last tendency increases significantly, with children and the unemployed becoming increasingly important within the group of households in deep poverty.

(iii) Using the more extreme per capita equivalence scale, the form of the poverty profiles change substantially, but the broad conclusion is unaffected. For 1992, the measured poverty contributions of the three groups are sensitive to the use of expenditure or income as the household resources measure, but all three groups make similar contributions to total poverty. After 1992, pensioners are increasingly dominated by the unemployed and children as major groups within the set of poor households, with little difference between the poverty contributions of the latter two groups.

Thus, to summarise, although one could not say that pensioners had fared *well* during the early transition period in Bulgaria, it would be true to say that the cut in their living standards has been less severe than that of other sensitive groups, largely as a result of the relatively higher rate of inflation-accommodation applied to pensions than to other social security benefits.

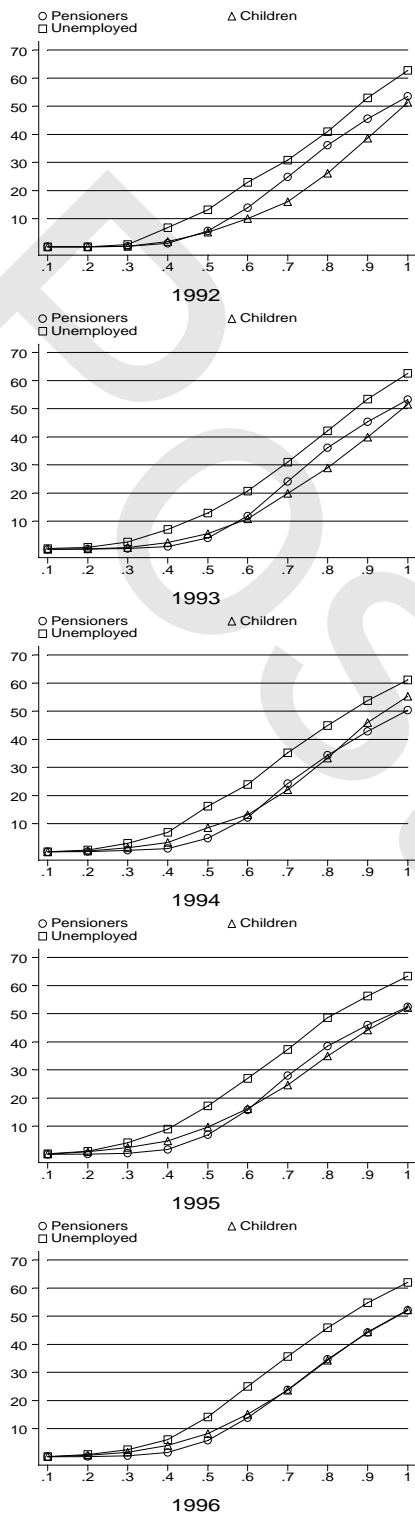


a) poor as % of group



b) poor within groups as % of all poor

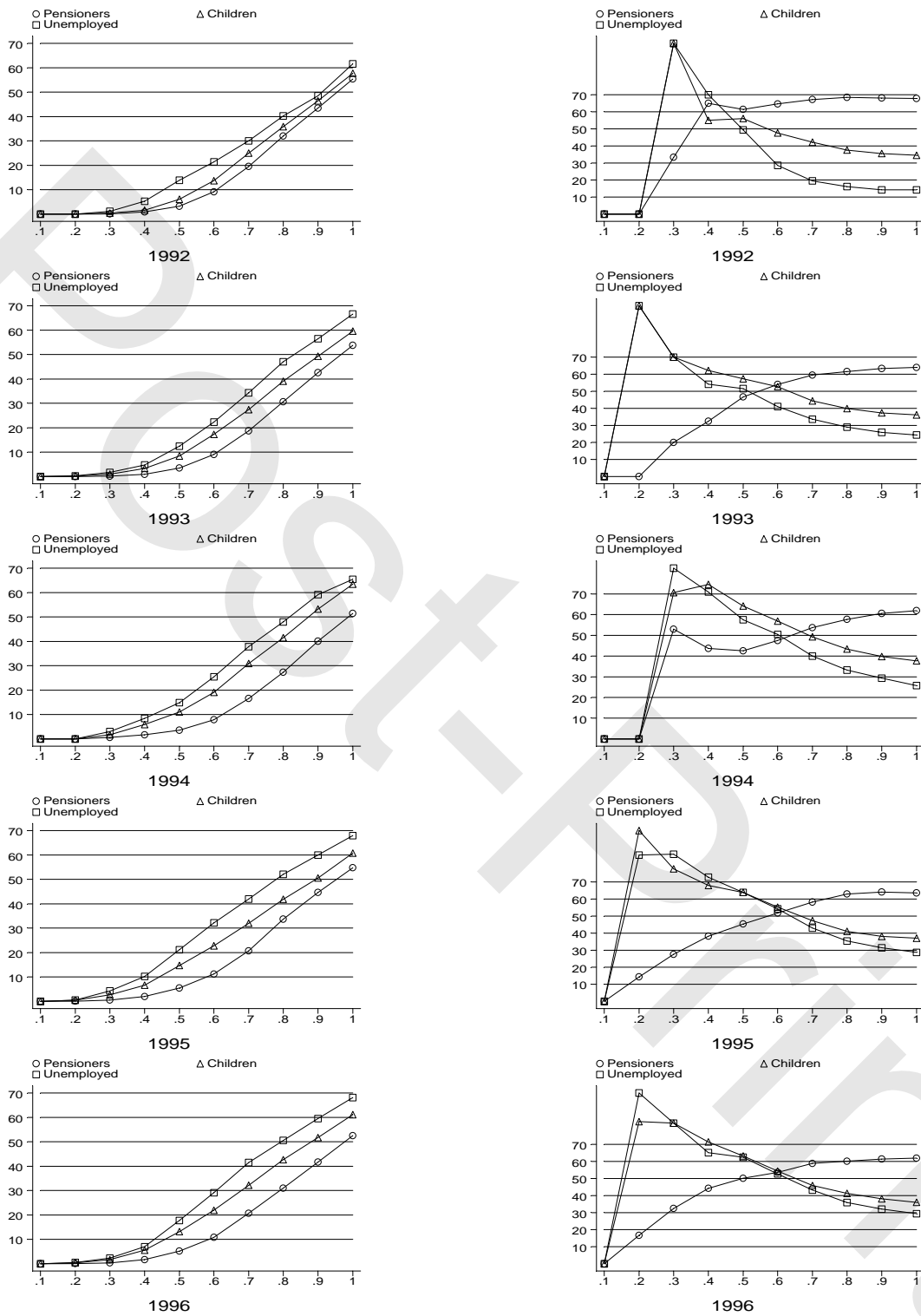
Figure 2: Expenditure-based poverty measures 1992-6 (OECD equivalence scale)



a) poor as % of group

b) poor within groups as % of all poor

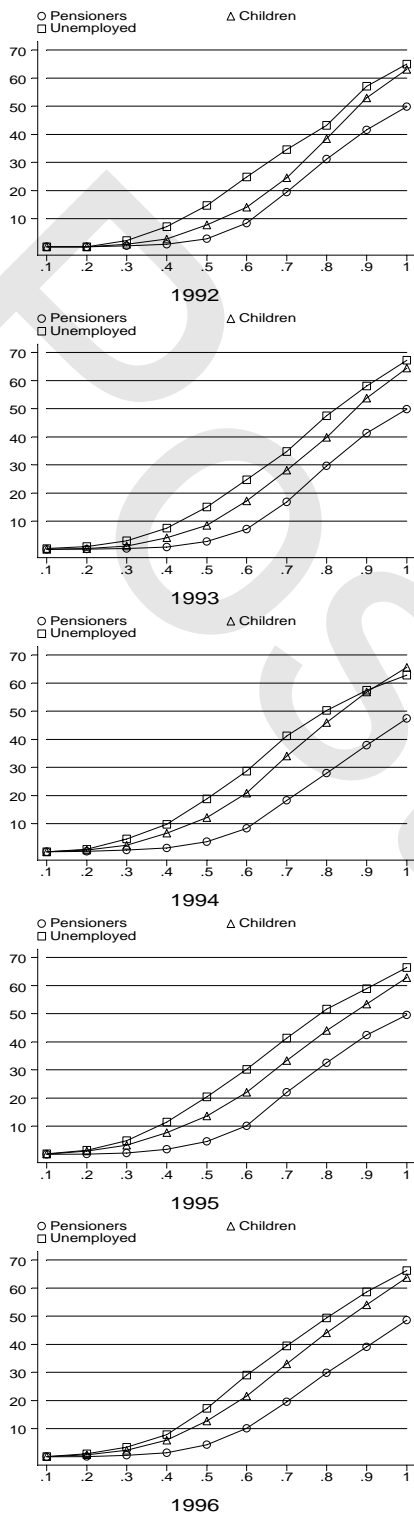
Figure 3: Income-based poverty measures 1992-6 (OECD equivalence scale)



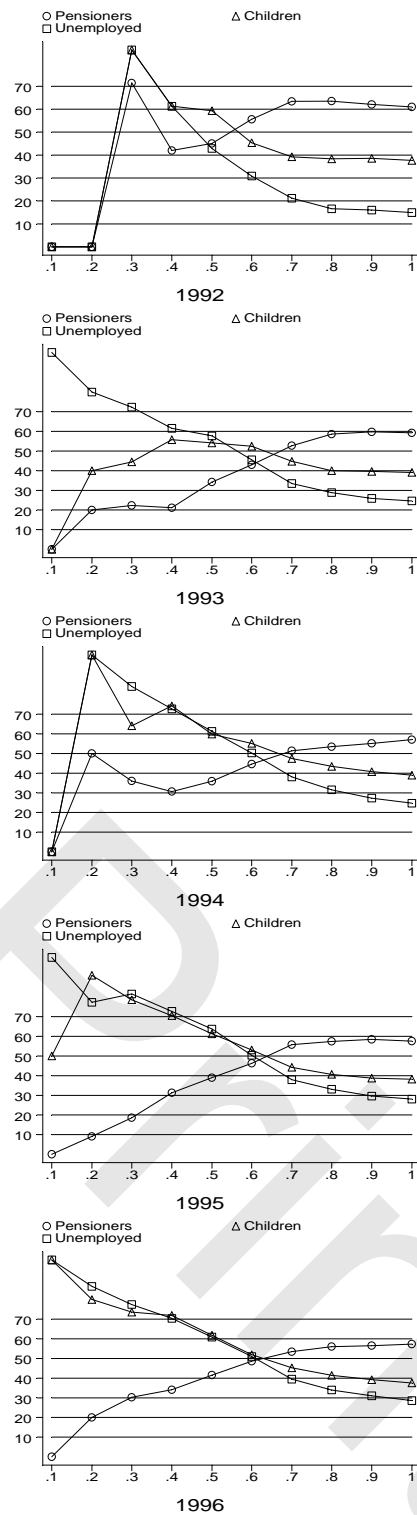
a) poor as % of group

b) poor within groups as % of all poor

Figure 4: Expenditure-based poverty measures 1992-6 (per capita equivalence scale)



a) poor as % of group



b) poor within groups as % of all poor

Figure 5: Income-based poverty measures 1992-6 (per capita equivalence scale)

5.4. POVERTY AND SOCIAL ASSISTANCE

The role of the social assistance system is to act as a social safety net, protecting the poorest households from poverty. During a severe recession, social assistance tends to become increasingly important with the passage of time, as the unemployed exhaust their limited entitlement to unemployment benefit (Micklewright and Nagy (1994)) and so it is, arguably, the most important of the anti-poverty devices available to the government. However, experience in many countries suggests that efficient targeting of social assistance is difficult, and that many very poor households can slip through the net. To investigate this issue, we examine the proportions of poor households which are found to be receiving social assistance payments. We do this by plotting the following proportion against the poverty line L , for each of our three target groups.

$$A(L) = \frac{\sum_{i=1}^n t_i a_i T\left(\frac{y_i}{s_i} < L\right)}{\sum_{i=1}^n t_i T\left(\frac{y_i}{s_i} < L\right)} \quad (4)$$

In these expressions $a_i = 1$ if household i receives social assistance, and 0 otherwise and t_i is, as before, an indicator of whether or not household i contains a member of the target group. The expression (4) looks at the set of households which are poor *and* belong to the target group, and shows the proportion of those households which are in receipt of social assistance.

There is a problem implementing this measure for the Bulgarian HBS, since the social assistance category includes regular social assistance income from the scheme sketched out in Table 7 above, but also a number of other payments including disablement allowances, grants and a variety of possible one-off allowances from government and public organisations and enterprises. Thus there is a more or less constant measured frequency of receipt which is largely

independent of household resources, and the safety net element of social assistance is superimposed on this background level. Nevertheless, the relationship between receipt of this composite category of income and equivalised household resources does tell us a lot about the targeting of the social assistance system. Figure 6 plots these proportions for each of the years 1992-96 (note that a different poverty line is used for each year, since L is fixed relative to that year's income distribution). They are constructed using income and the OECD equivalence scale; expenditure and the per capita equivalence scale produce similar results (not presented here).

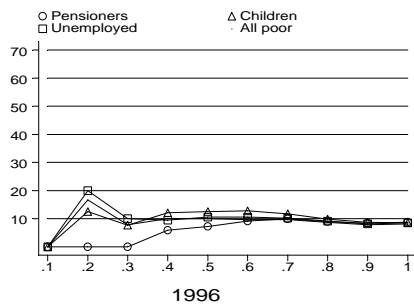
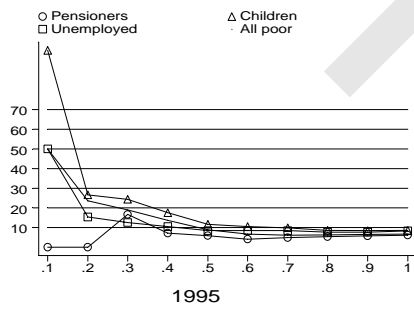
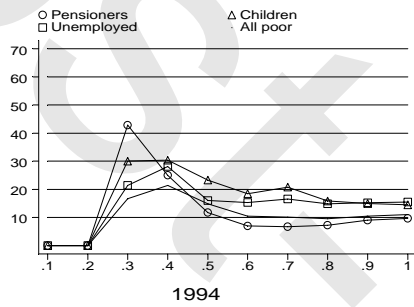
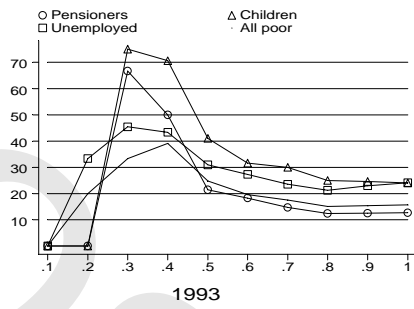
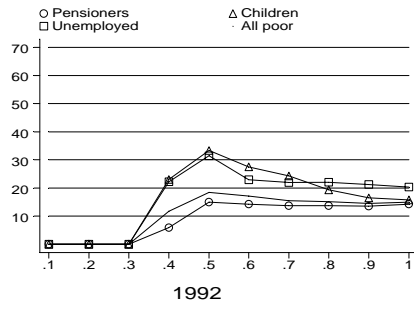


Figure 6: Proportion of the poor within target groups who are in receipt of social assistance 1992-96 (income; OECD equivalence scale)

We have already seen (Table 7 above) the reduction in generosity of the social assistance scheme, as a result of inflation and incomplete indexation of the official subsistence level since 1992. The actual pattern of receipt is the outcome of increasing long-term unemployment (which tends to increase eligibility), and factors such as the reduced real value of the official subsistence level and the shortage of funds experienced by local authorities (which tend to reduce eligibility). Figure 6 shows that the net effect has been a considerable retrenchment in terms of *de facto* eligibility for social assistance. Consider first the pattern of receipt among all poor households. Again, the profiles are subject to high degrees of sampling error for very low poverty lines, particularly for the years 1992-4. The frequency of receipt is not a monotonically decreasing function of the poverty line (as one might expect), partly reflecting the fact that some of the very poor are poor precisely because they do not receive social assistance. The frequency of receipt is significantly above the constant background level for households below about 60% of median equivalised income. In this very limited sense, social assistance payments are well targeted. However, the frequency of receipt is much lower than one might expect. Using poverty lines of around 40-60% of median equivalised income, the proportion of poor households receiving social assistance was only around 20% in 1992. There is a clear jump in 1993, however. This was caused, in large part, by a jump in the provision of 'one-off family allowances', distributed by local municipalities and, as Figure 6 shows, then targeted among the poorest households. Over time, the frequency of receipt has deteriorated still further, to around 15% by 1995. The level and rate of decline in eligibility is similar for all groups, except that pensioners had considerably lower frequencies of receipt in all years than households with children and those affected by unemployment.

6. Conclusions

The analysis in this paper attempts to sketch a rough picture of the structure of poverty in transitional Bulgaria, using data from the Bulgarian Household Budget Surveys for 1992-96. Using a range of measurement criteria, we have found a roughly six-fold rise in poverty over the 1992-96 period, relative to an absolute poverty line fixed in 1992 prices at 50% of the median.

Changes in the composition of measured poverty have also been striking. Depending to some extent on measurement conventions, and using a year-specific relative concept of poverty, we find that households containing pensioners accounted for around 60-70% of total poverty in 1992, declining to around 50% by 1996. In this limited relative sense, the pension reforms and indexation provisions implemented since 1992 have been successful in protecting pensioners from some of the effects of transition. This is not to say, of course, that pensioner poverty has not increased absolutely.

Households with children have been increasingly associated with poverty, with roughly 45% of them classified as relatively poor in 1996, compared with 30% in 1992. Part of this is due to the initially low level, and the lower rate of indexation applied to Child Benefit than to pensions over the period. However, the group most affected are the unemployed. In 1992 only around 30% of poor households contained an unemployed member; by 1996, some 50% of poor households were in this position. Since the number of registered unemployed people was falling for most of the 1992-96 period, this finding cannot be due simply to the existence of unemployment itself. Instead, the very low rate of indexation of unemployment benefits and the exhaustion of unemployment benefit entitlement are the main contributory factors.

Perhaps most worryingly, we have found a low degree of effectiveness of the last-resort social assistance safety net. This is the component of the social safety net that has been least protected against inflation, and in practice eligibility is very low and falling over time. If we see the social security system as providing a safety net for families cast into deep poverty by

economic transition, then there must be a strong case for reform of the social assistance programme, despite the poor state of the public finances.

Acknowledgements

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