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Inequality and Public Policy: A Country Study for Bulgaria

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Abstract

This paper is an attempt for measuring the impact of public policy on the inequality in Bulgaria. An analysis based on the Bulgarian Household Budget Surveys shows that the tax burden in Bulgaria, nevertheless increasing in the upper quintiles, declined between the beginning of the transition period and the year before the EU accession. Using different inequality measures we have found that despite the limited possibilities of the data, taxation policies also contribute to some extend to inequality reduction in Bulgaria. As regards the social transfers, unemployment benefits and child allowances are found to be the main social payments reducing the inequality among Bulgarian households. Using quantile regression is found that the coefficients of the effective tax rates increase across the quintiles for the entire period. The coefficients associated with the share of VAT expenditures in the total income decrease as one moves from the lowest to the highest quintile of the consumption distribution

1. Introduction

Bulgaria started its transition from planned to market economy in 1989, when the country began long political and economical transformation. There have been made different amendments towards opening up the economy and approaching market economy model. Prices and trade were liberalised, floating exchange rates of the foreign currencies were introduced. In line with these changes different tax and fiscal reforms were implemented (introduction of VAT, amendments of the corporate and income taxations). In 1997, a currency board was introduced, imposed as a precondition for further IMF funding.

The study aims to draw a picture of the inequality dynamics in Bulgaria during the period between 1992 and 2006, and particularly to underline the influences of the public polices on this phenomenon. After the initial dynamic years of economic instability and the serve hyperinflation crisis, since 1999 the Bulgarian economy has begun to recover. As many studies show, the economic growth is linked to an increase in the inequality levels. The research team looks for an answer of the question what

were the implemented reforms during the Bulgarian transition in the area of income and welfare distribution policies and redistribution and to what extend they influenced the development of the inequality in Bulgaria.

2. Literature review

Bulgaria, like the other transition economies, has experienced a rise in income inequality (Milanovic, 1998a). The Gini coefficient increased from 0.2277 in 1992 (Bogdanov, 1998) to 0.292 in 2003 (United Nations, 2006) and to 0.304 in 2006 (NSI, 2007). The main contributors to inequality in Bulgaria are found to be the incomes from employment (Kotzeva, 1998). However, in respect of the impact of the social transfers Kotzeva (1998) demonstrated that while in 1992 social transfers reduced inequality, in 1996 they were not found to be inequality equalizers. The reason was that the share of the social transfers in the total income was rather small to make any difference in the Gini coefficient (Milanovic, 1998). Hassan and Peters (1995) also proof that the social safety net in Bulgaria was not well targeted – most social benefits were found to be pro-poor, in the sense that they improve income distribution, but many benefits accrued to better-off households too.

As seen above, larger attention is paid on the social transfers and their impact on the inequality. However, the redistribution impact of the taxes and social insurances in Bulgaria stay somehow uncovered. In their study, based on 1992 household data, Hassan and Bogetic (1996) have hound that in 1992 the effective progression is rather modest, indicating significant tax evasion.

A research conducted by Deziner at al. (2000) has found that saving rates in Bulgaria strongly increase with relative income, suggesting that increasing income inequality may play a role in their determination. Saving rates are found to be significantly higher for households not owning their homes or owning few of the standard consumer durables.

3. Tax and insurance policy in Bulgaria

During the years of dynamic transition Bulgaria went through significant changes in the income tax policy and Bulgarian income tax system become less progressive (see table 1 in the Annex).

The taxable base is the gross wage reduced by the obligatory and voluntary insurance payments (the obligatory insurance payments include transfers for Fund "Professional Qualification and Unemployment", Pension Fund, Universal Pension Fund, Health-Insurance fund, General disease and maternity). Between 2001 and 2007 the proportions of the obligatory insurance was equalized between the employer and the employee. In 2001, 80% of the obligatory insurance was paid by the employer and 20% by the employee. During the next 6 year these proportions were equalized (by decreasing the employers' share by 5% and increasing the employees' share by 5% each year) and since 2007 each of them pays 50% of the insurance.

Table 1 presents the changes in the income tax rates in Bulgaria during the transition period. One could notice that Bulgarian income tax system changed towards less progressive[1] during the period between 1992 and 2006 with decreasing number if the income intervals and decreasing progressivity of the tax rates. While in 1992 there were 10 income intervals with a tax rate for the highest – 46%, the number of the income intervals decreased to three in 2006 with a tax rate for the highest interval 24% which shows almost double reduction in the tax rates for the highest income groups.

Although the progressivity of the tax income decreases, the total tax-insurance burdens remain pretty high varying for 2005 - between 33% and 45% with highest levels in the middle of wage distribution (Angelov, 2006).

4. Income and expenditure inequality during the Bulgarian transition

In this section is presented the dynamics of the inequality in Bulgaria during the transition period. As measures for the inequality levels are used Gini coefficient, Theil entropy measure and Theil mean log deviation measure. The inequality is calculated

[1] This trend continued during the years after the EU and since 2008 there is a flat income rate – 10%

based on different types of income and expenditures. In order to gain initial idea about the impact of tax and insurance policy in Bulgaria, the inequality indices for the gross and net income are calculated. As could be seen from table 2, taxes and insurance paid reduce the levels of income inequality in Bulgaria during the entire period. This initial finding is observed by both total and current equalized[2] income of the households.

Table 2: Inequality measures based on the total household equalized income

Gross total income					***Net total income***			
	Gini	**Theil entropy measure**	**Theil mean log deviation**			**Gini**	**Theil entropy measure**	**Theil mean log deviation**
1992	0,2723	0,1187	0,1140		*1992*	0,2682	0,1227	0,1159
1994	0,2905	0,1468	0,1389		*1994*	0,2837	0,1494	0,1397
1996	0,2898	0,1407	0,1366		*1996*	0,2815	0,1459	0,1378
1998	0,2880	0,1309	0,1308		*1998*	0,2847	0,1378	0,1320
2000	0,2701	0,1167	0,1153		*2000*	0,2629	0,1225	0,1154
2002	0,2701	0,1330	0,1263		*2002*	0,2662	0,1332	0,1246
2004	0,2960	0,1336	0,1255		*2004*	0,2902	0,1333	0,1211
2006	0,2701	0,1272	0,1133		*2006*	0,2689	0,1499	0,1303
Gross current income					***Net current income***			
	Gini	**Theil entropy measure**	**Theil mean log deviation**			**Gini**	**Theil entropy measure**	**Theil mean log deviation**
1992	0,2628	0,1155	0,1124		*1992*	0,2570	0,1122	0,1072
1994	0,2905	0,1462	0,1380		*1994*	0,2885	0,1462	0,1359
1996	0,2885	0,1396	0,1356		*1996*	0,2858	0,1383	0,1329
1998	0,2807	0,1298	0,1301		*1998*	0,2747	0,1248	0,1243
2000	0,2619	0,1158	0,1148		*2000*	0,2521	0,1074	0,1067
2002	0,2753	0,1319	0,1253		*2002*	0,2696	0,1272	0,1202
2004	0,2792	0,1394	0,1318		*2004*	0,2695	0,1298	0,1231
2006	0,2539	0,1114	0,1064		*2006*	0,2438	0,1024	0,0984

Source: Author's computations based on NSI HBS database.

[2] Household total and household current income are equalized using the OECD scale.

5. Effective tax rates

Table 3 presents the effective income tax rates of the different quintiles and how they changed between 1992 and 2002. The effective income tax rates are calculated as percentage of all payments to the State in the total income. However, as could be seen from the table, effective tax rates calculated on the base of household budget data for Bulgaria do underestimate significantly the real share of the taxes paid by the households. Actually, only for the group of self-employed there is comparative data about the income tax and social insurances paid by the households which leads to very low effective tax rates.

From table 3 one could notice that the effective tax rates for both lower quintiles and for upper quintiles decreased over time indicating a reduction in the tax burden for all income groups. It is interesting the greater reduction is for the lowest and for the highest quintile.

Table 3: Effective tax rates in Bulgaria for the period 1992 - 2006

Quintiles	***1992***	***1994***	***1996***	***1998***	***2000***	***2002***	***2004***	***2006***
1	8,8	8,0	6,7	6,3	7,1	7,6	6,2	7,3
2	9,7	8,8	8,0	8,0	8,9	8,8	7,7	9,0
3	10,7	9,9	9,3	9,1	9,7	10,1	9,0	10,2
4	12,3	10,7	10,2	9,7	11,0	10,8	10,4	11,2
5	14,2	13,0	12,0	11,9	13,2	13,1	12,3	12,9

Source: Author's computations based on NSI HBS database.

6. Redistribution and social payments

Another part of the redistribution policy of the State are the social payments directed towards the low income households. Table 7 shows increase in the share of low-income support benefits and in group of "other social benefits" in the GDP.

Table 7 Social protection expenditures, low-income support benefits and other social benefits as percent of GDP, Bulgaria 1992 - 2006

	Social protection expenditures as % of GDP	Pensions as % of GDP	Low-income support benefits as % of GDP	All other social benefits as % of GDP
1992	14.1	9.9	0.5	0.7
1994	12.9	9.7	0.4	0.6
1996	9.0	6.9	0.2	0.4
1998	11.3	7.9	0.2	0.8
2000	14.1	9.4	0.6	0.9
2002	13.4	9.0	0.7	3.1
2004	13.8	9.2	0.6	3.0
2006	14.2	9.5	0.7	3.0

Source: NSI data

Pensions are the largest payment scheme in Bulgarian social security system. There are different types of pensions in Bulgaria – personal old age pension, social old age pension, social invalidity pension, personal invalidity pension due to general disease, personal invalidity pension due to work injury and occupational disease, inherited pension, military invalidity pension, civil invalidity pensions, civil invalidity pensions. The main form of pension is for retirement. Pensions are not pure social transfer as the largest share of them is related to the individual work history. However, in Bulgaria there is still upper limit of the pensions and they were kept very low during the transition period. Therefore this payment is included in the analysis of the social payments' impact on the inequality.

Up to 2001 child allowances in Bulgaria were payable were not income-tested benefit, however since this year they are directed mainly to children living in low income households.

The unemployment benefit system has been modified several times since the early 1990s. In the beginning of transition period the resources for unemployment benefits

were unified in the Vocational Training and Unemployment Fund, which was financed mainly by payroll contributions amounting 7 per cent of the gross wage bill. The fund provided unemployment benefits as well as unemployment services (such as vocational training and other active labour market policies). Still, a problem was that the rules for granting unemployment benefit did not encourage unemployed to look for a job. Later on, successive reforms have resulted in a tightening of requirements regarding previous employment spell and lowering of the duration of their receipt.

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 or such who are below certain poverty line. Social assistance is means-tested and comprises a monthly cash benefit as well as a range of in-kind benefits (free goods or services, access to health care system etc), occasional or emergency (one time lump sum) cash assistance. Social assistance (in cash and in-kind) is funded by the State and the municipal budget. Many municipalities have been facing acute financial difficulties and as a consequence they were often not in position to address effectively all those in need of social assistance, to ensure full-payment of the benefits or to pay them on time. Eligibility for social assistance is determined on the basis of the Guaranteed Minimum Income (GMI) adjusted to the household size and the situation of its members (age, health etc). There is a prescribed subsistence level of income, with payment made to eligible households to bring them up to this level. Between years 1992 – 1996, prices rose nearly 5-fold, while the prescribed subsistence level rose less than 3-fold (Robert Ackrill, Rumen Dobrinsky, Nikolay Markov and Stephen Pudney; 2001).

To examine the contribution of the different social payments to the overall inequality, the Rao (1969) decomposition of the Gini coefficient is used. Table 8 presents the shares in total income and the concentration coefficients of the main types social payments n Bulgaria.

Nevertheless their low shares in the total income, unemployment benefits and child allowances had positive impact towards inequality reduction (their concentration coefficients were negative during almost the entire period indicating they were directed mostly to those with lower incomes).

The concentration coefficients of social assistance payments during the most of the years show they were not well targeted during most of the period. Only in 1996, 1998, 2000 and 2006 this type of State transfer was with low concentration coefficients indicating inequality reduction.

As regards pensions, they were in the role of inequality reducing payment during the first transition years (up to 1994) and after the hyperinflation crisis in 1997. A reason for this is that they are the main income source for most of the pensioners in Bulgaria and their low levels

Table 8: Importance of the social payments on the income inequality in Bulgaria

	1992	***1994***	***1996***	***1998***	***2000***	***2002***	***2004***	***2006***
Unemployment benefits								
Share in the total income	0.0044	0.0049	0.0029	0.0035	0.0093	0.0076	0.0036	0.0031
Concentration coefficients	-0.0713	0.0017	-0.0079	-0.0311	0.0038	-0.0168	-0.1424	-0.0352
Child allowances								
Share in the total income	0.0225	0.0139	0.0119	0.0090	0.0086	0.0072	0.0077	0.0089
Concentration coefficients	0.0593	-0.0722	-0.0102	0.0587	-0.0132	-0.1268	-0.1665	-0.0770
Social assistance								
Share in the total income	0.0077	0.0053	0.0112	0.0117	0.0112	0.0147	0.0279	0.0320
Concentration coefficients	0.2106	0.1400	-0.0098	0.0440	-0.0090	0.0874	0.1309	0.0382
Pensions								
Share in the total income	0.1839	0.1879	0.1782	0.2007	0.2450	0.2255	0.2563	0.2566
Concentration coefficients	-0.1794	-0.0363	0.0066	-0.0502	0.0798	0.1056	0.1702	0.0844

Source: Author's computations based on NSI HBS database.

7. Quantile regression

Value added tax in Bulgaria was introduced in 1994 and since than it is a significant income source for the State. In this section is investigated if the changes in the value added tax rate have affected the inequality in Bulgaria. The value added tax in Bulgaria was introduced at a rate of 18%, than between 1996 and 1998 it was 22% and since 1999 the VAT rate has been 20% with no reduced rates nor any goods that are zero rated. An analysis of the impact of VAT changes in Bulgaria on the welfare function was made by Pudney, Markov and Acrill (2001) and they found that these changes do not affect negatively the welfare distribution in Bulgaria.

Table 8 in the Annex includes several inequality measures calculated on the equalized[3] household consumption (with and without VAT expenditures). All the coefficients show increase in the consumption inequality when calculated without the VAT expenditures which could be a sign that the impact of VAT is towards reducing the inequality in the country.

Still, the analysis presented so far is rough and does not show the link between the position of the household in the consumption distribution and the different types of payments to and from the State. Therefore we investigate the consumption distribution during the entire period using quantile regression in order to assess whether the consumption distribution is affected uniformly by tax variables, social payment variables and demographic characteristics of the households. The dependent variable in the model is logarithm of the household equivalent consumption.

As independent variables are included:

- effective tax rate – as share of all direct taxes paid in the total income of the household
- share of VAT expenditures in the total household income
- share of pensions in the total household income
- share of unemployment benefits in the total household income
- share of social protection payments in the total household income

[3] The consumption is equalized using the original OECD scale

- share of child allowances in the total household income

Studying the households' distribution one should control also for some socio-demographic characteristics of the household which could influence the place of the household in the distribution ranging. Previous research shows that the most vulnerable groups for living in poverty are unemployed, households with young household head, those living in villages and those with lower education of the household head, female headed households (Bogdanov et al., 2003). Therefore the other independent variables in the model are:

- dummy for a household head below age of 30
- dummy for a household head above age of 65
- dummies for the type of settlement
- dummies for the type of employment of the household head
- dummy for a female household head
- dummies for the education of the household head

The empirical results are presented in tables 9-13 in the Annex. The estimation results show that the coefficients of the effective tax rates increase across the quintiles for the entire period. The coefficients associated with the share of VAT expenditures in the households' income decrease as one moves from the lowest to the highest quintile of the consumption distribution, indicating that in the lower part of the distribution they influence to a greater extend households' consumption.

The share of pensions in total income appears to be significant determinant for the consumption of all quintile groups except of the lowest one. While significant and positive in 1992 for the first quintile, its importance for the households in this group declines over the period. In the same way, the coefficients for unemployment benefits show significant influence on households' consumption only in the first year of the period. However, they decline between 1994 and 2006 in all quintiles with the greatest decline in the upper quintiles, confirming again that this type of benefit becomes more directed towards the poorer households. In contrast to them, the shares of family allowances and social transfers in total income have negative impact on the

consumption of all quintile groups and appear to be a significant variable (except for the lowest quintile group where family allowances are significant up to 1996).

While negative in the beginning of the period, the coefficients of the share of food expenditures in the total households' income change to positive for all quintile groups later on. For the lowest quintile, they remain negative up to 2002 (with exception to 1998) indicating inverse relationship between with the consumption of the household. In the last two years of the period they appear to be significant and positive in this group. For the second quintile group, these coefficients are significant for almost all the years. The coefficient of the share of food expenditures was negative only in 1992 and since then it is positive and steadily increasing. For the upper quintile groups, the impact of the food expenditures increased up to 1998 and since then has declining values indicating decreasing impact on households' consumption.

The age of the household head has positive impact on the consumption of the households, if he/she is below 30 years. While negative in the beginning of the period, coefficients for this variable become positive and significant by the end of the period (except for the first quintile group). In contrast, if the household head is above 65 years, the age of the household head has negative significant impact on the households' consumption in all quintile groups (again insignificant only in the first quintile group in 2006). For the first quintile group, a negative significant impact on the consumption has also the type of place of living. Living in a village influenced positively households' consumption of all but highest quintile groups in the initial years of the period. Later on living conditions in Bulgarian villages worsened due to the closure of many of the factories and cooperatives which were the main employment source for their residents. As result, unemployment rates grew, many of the younger people migrated to the towns, and during the period investigated living in a village in Bulgaria was mainly associated to living in poverty (Bogdanov et al., 2003).

While the activity of the household head appeared to be insignificant between 1992 and 2006 in the middle quintile groups, for the first quintile they appear to have significant impact on the households' consumption in the beginning of the period and for the highest quintile - in the end of the period.

The coefficients of the dummy about a female household head are negative for all quantile groups. However, these coefficients appear to be significant only in the beginning and in the end of the period. For the first quintile group, a female household head had significant negative impact on the consumption of the households in this group only in 1992 and to some extend in 1998 (the year after the hyperinflation crisis). For the second and third quintile group these coefficients were significant in the beginning and in the end of the period, while in the upper quintile groups the negative influence on the households' consumption increased and the coefficients are found to be significant in the last years of the period.

In 2006, the tertiary education of the household head tends to be significant determinant on increasing households' consumption and the coefficients are increasing across the quintile groups.

7. Discussion

Household budget surveys for Bulgaria allow for studying the impact of social transfers on poverty and income inequality. Still, a research directed towards the impact of income taxation policy in the country should be done carefully as the data do not include full records on the taxes and insurances paid. Under these restrictions, in this paper is found that tax burden in Bulgaria, nevertheless increasing in the upper quintiles, declined between the beginning of the transition period and the last year before the EU accession. Also an analysis of the inequality measures based on different types of incomes (current and total incomes before and after tax payments) demonstrated that nevertheless the limited possibilities of the data, taxation policies also contributed to some extend to inequality reduction in Bulgaria. Among the social transfers from State those most decreasing the inequality among Bulgarian households between 1992 and 2006 are unemployment benefits and child allowances.

The quantile regression results show hat effective tax rates increase across the quantiles for the entire period, while the importance of the impact of VAT expenditures declines across the quintile groups. The share of pensions in total income appears to be

significant determinant for the consumption of all but the last quintile group. The share of social transfers appears to be significant for the middle quintile groups in 2006, while the share of unemployment benefits in total households' income was significant for all quintile groups only in the beginning of the period Other significant determinant on the consumption of all quintiles groups appears to be the share of food expenditures in total households' income.

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ANNEX

Table 1: Income tax rates in Bulgaria

Year	***Yearly income***	***Duty***
1990	up to 200 BGL	Not taxable
1991	200.01 - 400 BGL	8 BGL + 5% of the income above 200 BGL
1992	400.01 - 600 BGL	18 BGL + 6% of the income above 400 BGL
	600.01 - 800 BGL	30 BGL + 8% of the income above 600 BGL
	800.01 - 1000 BGL	46 BGL + 12% of the income above 800 BGL
	1000.01 - 1200 BGL	70 BGL + 18% of the income above 1000 BGL
	1200.01 - 1600 BGL.	106 BGL + 24% of the income above 1200 BGL
	1600.01 - 2000 BGL	202 BGL + 30% of the income above 1600 BGL
	2000.01 - 2800 BGL	322 BGL + 36% of the income above 2000 BGL
	2800.01 - 4000 BGL	610 BGL + 40% of the income above 2800 BGL
	Above 4000 BGL	1090 BGL+ 46% of the income above 4000 BGL
1993	up - 1250 BGL	Not taxable
	1250.01 - 2000 BGL	20% of the income above 1250 BGL
	2000.01 - 6000 BGL	150 BGL + 24% of the income above 2000 BGL
	6000.01 - 12000 BGL	1110 BGL + 28% of the income above 6000 BGL
	12000.01 - 20000 BGL	2790 BGL + 32% of the income above 12000 BGL
	20000.01 - 40000 BGL	5350 BGL + 36% of the income above 20000 BGL
	40000.01 - 80000 BGL	12550 BGL + 40% of the income above 40000 BGL
	80000.01 - 125000 BGL	28550 BGL + 44% of the income above 80000 BGL
	125000.01 - 225000 BGL	48350 BGL + 48% of the income above 125000 BGL
	Above 225000 BGL	96350 BGL + 52% of the income above 125000 BGL
1994	up - 1850 BGL	Not taxable
	1850.01 - 3000 BGL	20% of the income above 1850 BGL
	3000.01 - 8000 BGL	230 BGL + 24% of the income above 3000 BGL
	8000.01 - 15000 BGL	1430 BGL + 28% of the income above 8000 BGL
	15000.01 - 25000 BGL	3390 BGL + 32% of the income above 15000 BGL
	25000.01 - 50000 BGL	6590 BGL + 36% of the income above 25000 BGL
	50000.01 - 150000 BGL	15590 BGL + 40% of the income above 50000 BGL
	150000.01 - 300000 BGL	55590 BGL + 45% of the income above 150000 BGL
	above 300000 BGL	123090 BGL. + 50% of the income above 300000 BGL
1995	up to 1850 BGL	Not taxable
	1850.01 - 3000 BGL	20% of the income above 1850 BGL
	3000.01 - 8000 BGL	230 BGL + 24% of the income above 3000 BGL
	8000.01 - 15000 BGL	1430 BGL + 28% of the income above 8000 BGL
	15000.01 - 25000 BGL	3390 BGL + 32% of the income above 15000 BGL
	25000.01 - 50000 BGL	6590 BGL + 36% of the income above 25000 BGL
	50000.01 - 150000 BGL	15590 BGL + 40% of the income above 50000 BGL
	150000.01 - 300000 BGL	55590 BGL + 45% of the income above 150000 BGL
	above 300000 BGL	123090 BGL + 50% of the income above 300000 BGL

1996	up to 3500 BGL 3500.01 - 4000 BGL 4000.01 - 5000 BGL 5000.01 - 10000 BGL 10000.01 - 20000 BGL 20000.01 - 40000 BGL 40000.01 - 80000 BGL 80000.01 - 240000 BGL above 240000 BGL	Not taxable 18% of the income above 3500 BGL 90 BGL + 20% of the income above 4000 BGL 290 BGL + 24% of the income above 5000 BGL 1490 BGL + 28% of the income above 10000 BGL 4290 BGL + 32% of the income above 20000 BGL 10690 BGL + 38% of the income above 40000 BGL 25890 BGL + 44% of the income above 80000 BGL 96290 BGL + 50% of the income above 240000 BGL
1997	up to 50 000 BGL 50 001 - 60 000 BGL 60 001 - 80 000 BGL 80 001 - 160 000 BGL 160 001 - 320 000 BGL 320 001 - 640 000 BGL 640 001 - 1280 000 BGL above 1280 000 BGL	Not taxable 20% of the income above 50 000 BGL 2 000 BGL + 22% of the income above 60 000 BGL 6 400 BGL + 24% of the income above 80 000 BGL 25 600 BGL + 28% of the income above 160 000 BGL 70 400 BGL + 32% of the income above 320 000 BGL 172 800 BGL + 36% of the income above 640 000 BGL 403 200 BGL + 40% of the income above 1280 000 BGL
1998	up to 720 000 BGL 720 001 - 960 000 BGL 960 001 - 3 840 000 BGL 3 840 001 - 15 360 000 BGL above 15 360 000 BGL	Not taxable 20 % of the income above 720 000 BGL 48 000 BGL + 26 % of the income above 960 000 BGL 796 800 BGL + 32 % of the income above 3 840 000 BGL 4 483 200 BGL + 40 % of the income above 15 360 000 BGL
1999	up to 900 BGN 900 - 1200 BGN 1200 - 4200 BGN 4200 - 15 600 BGN above 15 600 BGN	Not taxable 20 % of the income above 900 BGN 60 BGN+ 26 % of the income above 1200 BGN 840 BGN + 32 % of the income above 4200 BGN 4503.60 BGN + 40 % of the income above 15 600 BGN
2000	up to 960 BGN 960 - 1380 BGN 1380 - 4560 BGN 4560 - 16 800 BGN above 16 800 BGN	Not taxable 20 % of the income above 960 BGN 84 BGN + 26 % of the income above 1380 BGN 910.8 BGN + 32 % of the income above 4560 BGN 4843.2 BGN + 40 % of the income above 16 800 BGN
2001	up to 1200 BGN 1200 - 1620 BGN 1620 -4800 BGN 4800 - 16 800 BGN above 16 800 BGN	Not taxable 20 % of the income above 1200 BGN 84 BGN + 26 % of the income above 1620 BGN 910.8 BGN + 32 % of the income above 4800 BGN 4750.8 BGN + 38 % of the income above 16 800 BGN

2002	up to 1320 BGN 1320 - 1680 BGN 1680 - 4800 BGN 4800 - 12 000 BGN Above 12 000 BGN	Not taxable 18 % of the income above 1320 BGN 64.8 BGN + 24 % of the income above 1680 BGN 813.6 BGN + 28% of the income above 4800 BGN 2829.6 BGN + 29 % of the income above 12 000 BGN
2003	up to 1320 BGN 1320 - 1800 BGN 1800 - 3000 BGN 3000 -7200 BGN above 7200 BGN	Not taxable 15 % of the income above 1320 BGN 72 BGN + 22 % of the income above 1800 BGN 336 BGN + 26 % of the income above 3000 BGN 1428 BGN + 29 % of the income above 7200 BGN
2004	up to 1440 BGN 1440 - 1800 BGN 1800 - 3000 BGN 3000 – 7200 BGN above 7200 BGN	Not taxable 12 % of the income above 1440 BGN 43.20 BGN + 22 % of the income above 1800 BGN 307.20 BGN + 26 % of the income above 3000 BGN 1399.20 BGN + 29 % of the income above 7200 BGN
2005	up to 1560 BGN 1560 - 1800 BGN 1800 - 3000 BGN 3000 – 7200 BGN above 7200 BGN	Not taxable 10 % of the income above 1560 BGN 24 BGN + 20 % of the income above 1800 BGN 204 BGN + 22 % of the income above 3000 BGN 1188 BGN + 24 % of the income above 7200 BGN
2006	up to 2160 BGN 2160 - 3000 BGN 3000 – 7200 BGN above 7200 BGN	Not taxable 20 % of the income above 1800 BGN 168 BGN + 22 % of the income above 3000 BGN 1092 BGN + 24 % of the income above 7200 BGN

Source: State Gazette, Law for Taxation of the Income of Physical Persons

Table 8: Consumption inequality with and without VAT expenditures

	1992	***1994***	***1996***	***1998***	***2000***	***2002***	***2004***	***2006***	***2008***
				Consumption					
Relative mean deviation	0,251970	0,266866	0,168268	0,177030	0,170453	0,174340	0,176417	0,172900	0,188124
Coefficient of variation	0,737745	0,769079	0,485371	0,500436	0,479602	0,566580	0,494686	0,502073	0,574146
Standard deviation of logs	0,631219	0,687647	0,424476	0,448707	0,439144	0,434845	0,448616	0,438376	0,464496
Gini coefficient	0,350864	0,371151	0,238409	0,250585	0,241794	0,246455	0,249636	0,246087	0,264863
Mehran measure	0,470106	0,497725	0,328585	0,345042	0,335633	0,337583	0,343550	0,338063	0,358725
Piesch measure	0,291242	0,307863	0,193321	0,203356	0,194875	0,200891	0,202678	0,200099	0,217931
Kakwani measure	0,108132	0,120337	0,052619	0,057600	0,054054	0,056577	0,057279	0,056021	0,064527
Theil entropy measure	0,210015	0,233716	0,097623	0,106213	0,098930	0,110722	0,105181	0,104349	0,124531
Theil mean log deviation measure	0,204447	0,234955	0,093185	0,102909	0,097082	0,100630	0,102454	0,099551	0,114913
				Consumption without VAT					
Relative mean deviation		0,376533	0,401683	0,409502	0,393481	0,404626	0,400430	0,401243	0,361462
Coefficient of variation		1,016396	1,157440	1,188311	1,163071	1,218396	1,200720	1,206878	1,103310
Standard deviation of logs		1,068399	1,085264	1,082174	1,036119	1,021467	1,015708	0,983362	0,824648
Gini coefficient		0,504324	0,535410	0,541681	0,525955	0,536738	0,533446	0,530633	0,478149
Mehran measure		0,665429	0,691244	0,694304	0,676468	0,683303	0,679432	0,672669	0,603591
Piesch measure		0,423772	0,457493	0,465369	0,450699	0,463456	0,460453	0,459615	0,415427
Kakwani measure		0,215560	0,240216	0,245363	0,231479	0,240706	0,237764	0,235566	0,194114
Theil entropy measure		0,425693	0,493916	0,509097	0,481039	0,506924	0,498896	0,496142	0,408420
Theil mean log deviation measure		0,504418	0,554643	0,561103	0,519693	0,529378	0,521599	0,504744	0,381648

Source: Author's computations based on NSI HBS database.

Table 9: Quantile regression results – first quintile

	1992		1994		1996		1998		2000		2002		2004		2006	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
tax efficiency rate	0,000	0,003	0,006+	0,004	0,005**	0,002	0,005	0,004	0,004	0,003	0,005	0,004	0,001	0,598	0,001	0,002
VATshare in tot income			0,442**	0,034	0,356**	0,017	0,466**	0,022	0,449**	0,019	0,439**	0,026	0,576**	0,000	0,665**	0,024
share of food expenditures	-1,233**	0,090	-0,259+	0,144	-0,330**	0,063	0,053	0,138	-0,087	0,107	-0,105	0,133	0,278**	0,001	0,343**	0,102
share of pensions	0,124*	0,056	-0,031	0,027	0,003	0,012	-0,029	0,019	0,015	0,016	0,024	0,023	-0,009	0,530	-0,026	0,012
share of unempl benefits	-0,686**	0,233	-0,313	0,330	-0,205	0,205	0,056	0,177	-0,341+	0,203	0,006	0,175	-0,032	0,895	0,131	0,093
share of family allowances	-2,225**	0,387	-1,535**	0,327	-0,686*	0,279	-0,370	0,446	-0,193	0,202	-0,066	0,295	-0,397+	0,064	-0,099	0,158
share of social transfers	-0,206	0,199	-0,575	0,612	-0,337*	0,156	-0,254	0,246	-0,307*	0,148	-0,031	0,148	-0,160	0,153	-0,026	0,070
household head < 30	-0,026	0,057	0,129+	0,072	0,014	0,053	0,068	0,077	0,188**	0,049	0,124*	0,051	0,049	0,192	0,045	0,037
household head >65	0,118**	0,021	0,025	0,038	0,022	0,024	0,001	0,048	0,039*	0,018	-0,003	0,038	-0,065**	0,006	-0,030	0,018
capital	0,019	0,044	0,122*	0,054	0,070*	0,030	0,068	0,048	0,101**	0,026	0,070+	0,040	0,023	0,363	-0,034	0,023
small town	-0,027	0,026	-0,063	0,042	-0,043*	0,025	0,016	0,039	-0,043+	0,026	-0,068+	0,040	-0,096**	0,000	-0,036*	0,015
village	0,087*	0,047	0,011	0,035	-0,005	0,028	0,004	0,040	-0,013	0,054	-0,026	0,068	-0,076*	0,027	-0,089**	0,028
hsh head employer	0,250*	0,105	0,021	0,133	0,236**	0,088	0,139	0,100	0,190**	0,061	0,125	0,144	0,071	0,203	0,080	0,069
hsh head self-employed	0,074	0,048	0,022	0,084	0,049	0,041	-0,073	0,141	0,023	0,062	-0,003	0,077	-0,038	0,405	-0,012	0,138
hsh head nonpaid family worker	0,736*	0,370	0,169*	0,083	0,522*	0,250	0,398*	0,203	0,241*	0,106			0,819*	0,047	0,104	0,195
hsh head employed in a cooperative	0,361*	0,170	0,246	0,200	0,475	0,360	0,240*	0,121	0,100+	0,053			-0,114*	0,011	0,046	0,111
female hsh head	-0,097**	0,022	-0,017	0,033	-0,050*	0,019	0,055+	0,031	0,013	0,018	0,044	0,028	-0,006	0,727	-0,029	0,021
primary or less education of the hsh head	-0,112*	0,050	-0,132**	0,044	-0,013	0,043	-0,097	0,068	-0,053+	0,031	0,031	0,057	-0,062	0,292	-0,152	0,126
tertiary education of the hsh head	0,161**	0,025	-0,028	0,072	0,080**	0,023	-0,019	0,043	0,017	0,027	0,066	0,042	0,083**	0,000	0,027	0,020
_cons	10,79	0,055	7,121	0,268	7,966	0,166	8,210	0,301	4,669	0,123	4,71	0,169	4,375	0,000	3,980	0,155

Level of significance: +p<0.10; * p<0.05; ** p<0.01

Source: Author's computations based on NSI HBS database.

Table 10: Quantile regression results – second quintile

	1992		1994		1996		1998		2000		2002		2004		2006	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
tax efficiency rate	0,001	0,002	0,004	0,003	0,009**	0,001	0,008**	0,089	0,009**	0,001	0,010**	0,002	0,001	0,001	0,002*	0,001
VAT share in income			0,550**	0,025	0,445**	0,014	0,536**	0,013	0,548**	0,016	0,568**	0,020	0,600**	0,016	0,648**	0,014
share of food expenditures	-1,246**	0,057	0,049	0,072	0,142*	0,065	0,450**	0,016	0,421**	0,062	0,235**	0,068	0,446**	0,076	0,456**	0,052
share of pensions	-0,266**	0,027	-0,018+	0,011	-0,012	0,009	-0,018	0,157	-0,008	0,007	0,000	0,011	-0,027**	0,006	-0,055**	0,008
share of unempl benefits	-1,079**	0,168	-0,036	0,195	-0,458*	0,213	-0,070	0,222	-0,199*	0,087	-0,045	0,210	-0,210	0,198	0,157	0,135
share of family allowances	-2,752**	0,295	-1,005**	0,294	-0,753**	0,158	-0,992**	0,151	-0,445**	0,124	-0,096	0,191	-0,509**	0,107	-0,442**	0,105
share of social transfers	-0,461**	0,082	-0,349	0,277	-0,110	0,070	-0,221	0,036	-0,174**	0,064	-0,140+	0,083	-0,056	0,046	-0,076*	0,038
household head < 30	-0,043	0,029	0,040	0,038	0,043+	0,025	0,084*	0,022	0,155**	0,029	0,090**	0,034	0,078+	0,040	0,058*	0,023
household head >65	0,075**	0,014	-0,022	0,019	-0,017	0,013	-0,032	0,092	-0,008	0,013	-0,026+	0,015	-0,047**	0,012	-0,035**	0,013
capital	0,086**	0,020	0,108**	0,020	0,068**	0,016	0,087**	0,024	0,082**	0,014	0,045**	0,017	0,034**	0,013	-0,010	0,020
small town	-0,003	0,018	-0,041*	0,020	-0,022+	0,013	-0,016	0,023	-0,024*	0,012	-0,050**	0,016	-0,028*	0,013	-0,037**	0,011
village	0,066**	0,019	-0,086**	0,027	-0,009	0,015	-0,017	0,037	-0,009	0,017	-0,079**	0,026	-0,052*	0,021	-0,104**	0,013
hsh head employer	0,142	0,093	-0,025	0,114	0,165*	0,072	0,170	0,069	0,063	0,048	0,029	0,052	-0,007	0,058	0,067	0,074
hsh head self-employed	0,033	0,027	0,042	0,033	0,032+	0,019	-0,041	0,051	0,023	0,033	-0,021	0,051	0,049	0,044	-0,017	0,038
hsh head nonpaid family worker	0,471*	0,236	-0,088	0,074	0,344*	0,162	0,082	0,071	-0,019	0,101			0,695+	0,357	-0,079	0,182
hsh head employed in a cooperative	0,033	0,144	0,058	0,106	0,228	0,376	-0,086	0,018	-0,164*	0,083			-0,066	0,127	-0,117	0,097
female hsh head	-0,065**	0,015	0,006	0,017	-0,020	0,013	-0,027	0,029	-0,011	0,009	0,002	0,019	-0,019	0,012	-0,037**	0,013
primary or less education of hsh head	-0,065**	0,024	-0,061+	0,031	0,030*	0,014	0,017		-0,044**	0,017	0,019	0,028	-0,081	0,057	-0,086	0,054
tertiary education of the hsh head	0,101**	0,013	-0,034	0,021	0,061**	0,015	0,052**	0,193	0,043**	0,014	0,034	0,025	0,075**	0,009	0,032*	0,015
_cons	11,192	0,042	6,488	0,191	7,186	0,155	7,447	0,002	4,232	0,097	4,252	0,115	4,343	0,112	4,229	0,088

Level of significance: +p<0.10; * p<0.05; ** p<0. 01
Source: Author's computations based on NSI HBS database;

Table 11: Quantile regression results – third quintile

	1992		1994		1996		1998		2000		2002		2004		2006	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
tax efficiency rate	0,003*	0,001	0,005*	0,002	0,008**	0,001	0,008**	0,002	0,010**	0,002	0,011**	0,002	0,000	0,001	0,002	0,001
VATshare in income			0,601**	0,021	0,503**	0,013	0,578**	0,018	0,597**	0,008	0,602**	0,024	0,573**	0,018	0,568**	0,010
share of food expenditures	-1,227**	0,037	0,179**	0,066	0,377**	0,072	0,684**	0,074	0,663**	0,050	0,456**	0,093	0,312**	0,067	0,141*	0,057
share of pensions	-0,327**	0,033	-0,011	0,011	-0,019**	0,006	-0,023+	0,012	-0,022**	0,004	-0,016+	0,009	-0,043**	0,008	-0,048**	0,008
share of unempl benef	-1,196**	0,108	-0,091	0,127	-0,502**	0,180	-0,211	0,156	-0,197**	0,072	-0,118	0,089	0,009	0,205	0,038	0,099
share of family allow	-2,649**	0,204	-0,874**	0,214	-0,720**	0,141	-0,878**	0,191	-0,291**	0,109	-0,245	0,164	-0,603**	0,151	-0,547**	0,114
share of social transfer	-0,549**	0,084	-0,316	0,300	-0,026	0,042	-0,160*	0,074	-0,075	0,051	-0,182**	0,055	-0,081	0,061	-0,136*	0,064
household head < 30	-0,015	0,030	0,088**	0,026	0,031	0,033	0,136**	0,041	0,141**	0,022	0,100**	0,035	0,092*	0,036	0,103**	0,028
household head >65	0,031+	0,018	-0,026	0,020	-0,031**	0,009	-0,057**	0,020	-0,038**	0,008	-0,022	0,017	-0,052**	0,009	-0,070**	0,012
capital	0,083**	0,016	0,105**	0,012	0,079**	0,014	0,066**	0,013	0,077**	0,009	0,038**	0,016	0,026	0,016	0,010	0,014
small town	-0,006	0,015	-0,013	0,017	-0,021**	0,008	-0,036	0,017	-0,027**	0,008	-0,049**	0,008	-0,030**	0,010	-0,028**	0,009
village	0,063**	0,019	-0,059*	0,028	0,000	0,011	-0,026	0,027	-0,008	0,017	-0,052+	0,031	-0,027	0,027	-0,044*	0,017
hsh head employer	0,239**	0,080	0,084	0,084	0,091**	0,032	0,111	0,105	0,035	0,051	0,083+	0,049	0,006	0,051	0,033	0,035
hsh head self-empl	0,006	0,028	0,045	0,039	0,036*	0,018	-0,017	0,037	0,031	0,020	0,035	0,034	0,028	0,036	0,011	0,034
hsh head nonpaid family worker	0,311*	0,155	-0,167**	0,064	0,182*	0,082	-0,050*	0,023	-0,109	0,160			0,593+	0,304	0,035	0,133
hsh head employed in a cooperative	-0,222	0,225	-0,133	0,131	0,082	0,389	-0,236+	0,142	-0,291*	0,142			0,019	0,080	0,021	0,121
female hsh head	-0,034**	0,011	-0,004	0,025	-0,011	0,012	-0,014	0,018	-0,014+	0,007	-0,001	0,014	-0,047**	0,013	-0,037**	0,012
primary or less education of hsh head	-0,070**	0,024	0,005	0,031	0,027+	0,014	0,070*	0,032	-0,003	0,012	0,009	0,026	0,053	0,111	0,026	0,066
tertiary education of the hsh head	0,100**	0,014	-0,034	0,023	0,035**	0,013	0,048*	0,021	0,042**	0,013	0,030*	0,013	0,069**	0,011	0,045**	0,009
_cons	11,435	0,027	6,202	0,171	6,693	0,152	6,993	0,231	4,029	0,060	4,132	0,151	4,688	0,111	4,886	0,066

Level of significance: +p<0.10; * p<0.05; ** p<0.01

Source: Author's computations based on NSI HBS database;

Table 12: Quantile regression results – fourth quintile

	1992		1994		1996		1998		2000		2002		2004		2006	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
tax efficiency rate	0,002	0,002	0,007**	0,002	0,007**	0,001	0,008**	0,002	0,011**	0,001	0,012**	0,002	0,001	0,001	0,003*	0,001
VATshare in tot income			0,616**	0,022	0,517**	0,014	0,589**	0,016	0,585**	0,011	0,596**	0,016	0,512**	0,012	0,532**	0,015
share of food expenditures	-1,203**	0,050	0,362**	0,074	0,462**	0,068	0,858**	0,074	0,701**	0,047	0,538**	0,057	0,156*	0,073	0,150*	0,059
share of pensions	-0,470**	0,037	-0,021*	0,009	-0,026**	0,007	-0,051**	0,008	-0,032**	0,005	-0,036**	0,008	-0,041**	0,008	-0,062**	0,008
share of unempl benef	-1,257**	0,302	-0,299*	0,135	-0,371+	0,219	-0,410*	0,169	-0,124	0,076	-0,069	0,144	0,036	0,271	0,173	0,319
share of family allow	-2,519**	0,177	-0,626**	0,174	-0,692**	0,110	-0,859**	0,224	-0,574**	0,080	-0,078	0,228	-0,689**	0,123	-0,502**	0,146
share of social transfer	-0,676**	0,052	-0,494+	0,259	-0,053	0,069	-0,205*	0,084	-0,109	0,071	-0,152*	0,068	-0,014	0,092	-0,157**	0,049
household head < 30	-0,026	0,037	0,042	0,036	0,040	0,026	0,076*	0,030	0,134**	0,021	0,094*	0,037	0,054	0,036	0,131**	0,028
household head >65	0,016	0,011	-0,033	0,020	-0,038**	0,012	-0,041*	0,023	-0,051**	0,008	-0,017	0,014	-0,071**	0,015	-0,088**	0,013
capital	0,083**	0,014	0,091**	0,023	0,088**	0,015	0,074**	0,022	0,086**	0,013	0,061**	0,015	0,059**	0,020	0,030	0,020
small town	-0,037+	0,021	-0,018	0,013	-0,033**	0,009	-0,026	0,017	-0,041**	0,008	-0,043*	0,018	-0,047**	0,015	-0,054	0,016
village	0,048+	0,026	-0,033	0,027	0,002	0,016	-0,020	0,018	-0,010	0,016	-0,026	0,028	-0,021	0,019	-0,065**	0,024
hsh head employer	0,284**	0,072	0,155**	0,059	0,131+	0,069	0,183+	0,105	0,017	0,050	0,120	0,079	-0,022	0,045	0,029	0,049
hsh head self-employed	0,113**	0,038	0,064	0,041	0,101**	0,025	0,031	0,024	0,009	0,024	0,032	0,030	0,046+	0,026	0,050*	0,025
hsh head nonpaid family worker	0,164*	0,081	-0,211**	0,078	0,069**	0,031	-0,194*	0,093	0,055	0,172			0,460+	0,235	0,058	0,097
hsh head employed in a cooperative	0,066	0,273	-0,040	0,147	0,603+	0,361	-0,348*	0,196	-0,414	0,205			0,009	0,064	-0,091	0,126
female hsh head	-0,020	0,014	0,019	0,021	-0,003	0,010	-0,008	0,017	-0,018*	0,008	0,000	0,013	-0,048**	0,017	-0,027*	0,012
primary or less education of the hsh head	-0,080**	0,025	0,010	0,030	0,043*	0,017	0,071*	0,029	0,046*	0,020	0,003	0,038	0,091	0,111	0,028	0,077
tertiary education of the hsh head	0,089**	0,018	-0,014	0,026	0,024*	0,011	0,045*	0,020	0,036**	0,010	0,039**	0,013	0,044**	0,014	0,076**	0,017
_cons	11,704	0,032	6,157	0,181	6,670	0,159	6,913	0,218	4,208	0,070	4,264	0,106	5,213	0,078	5,239	0,099

Level of significance: +p<0.10; * p<0.05; ** p<0.01

Source: Author's computations based on NSI HBS database;

Table 13: Quantile regression results – fifth quintile

	1992		1994		1996		1998		2000		2002		2004		2006	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
tax efficiency rate	0,001	0,003	0,008*	0,004	0,004+	0,002	0,003	0,003	0,011**	0,002	0,009**	0,002	0,000	0,002	0,005*	0,002
VAT share in income			0,596**	0,037	0,460**	0,024	0,509**	0,032	0,536**	0,019	0,507**	0,032	0,443**	0,022	0,463**	0,020
share of food expenditures	-1,189**	0,062	0,391**	0,112	0,357**	0,121	0,606**	0,147	0,700**	0,088	0,435**	0,157	0,040	0,121	0,050	0,066
share of pensions	-0,619**	0,054	-0,032*	0,016	-0,039**	0,010	-0,090**	0,018	-0,064**	0,014	-0,061**	0,012	-0,060**	0,019	-0,092**	0,018
unempl. benefits	-1,045**	0,340	-0,575	0,481	-0,395+	0,214	-0,556+	0,313	-0,319**	0,105	-0,282*	0,132	0,101	0,311	0,478	0,341
family allowances	-2,363**	0,191	-0,998**	0,169	-0,903**	0,219	-1,399+	0,844	-1,149**	0,205	-0,272	0,203	-1,459**	0,271	-0,723*	0,289
social transfers	-0,939**	0,083	-0,300	0,326	0,044	0,244	-0,391**	0,132	-0,113	0,126	-0,078	0,176	0,131	0,138	-0,142	0,092
household head < 30	-0,028	0,052	0,131**	0,033	0,006	0,035	0,018	0,049	0,114+	0,065	0,060+	0,036	0,182*	0,076	0,073*	0,028
household head >65	-0,025	0,022	-0,042	0,026	-0,047*	0,022	-0,037	0,030	-0,048**	0,016	-0,025	0,027	-0,084**	0,028	-0,075**	0,020
capital	0,032	0,037	0,111**	0,034	0,076*	0,033	0,095**	0,035	0,060**	0,020	0,079*	0,038	0,059	0,039	0,018	0,036
small town	-0,065*	0,027	-0,031	0,031	-0,043*	0,019	0,061+	0,037	-0,033+	0,020	-0,059	0,033	-0,046*	0,020	-0,082**	0,026
village	-0,034	0,040	-0,031	0,039	-0,020	0,030	0,019	0,051	-0,005	0,033	0,016	0,051	-0,014	0,046	-0,046	0,043
hsh head employer	0,272**	0,072	0,011	0,093	0,182+	0,093	0,226	0,082	0,107	0,083	0,191+	0,105	-0,063	0,100	-0,096*	0,042
hsh head self-empl	0,138**	0,051	0,053	0,165	0,202**	0,049	0,054	0,063	0,030	0,060	0,080*	0,040	0,027	0,057	0,110	0,083
hsh head nonpaid family worker	-0,090	0,072	-0,384**	0,080	-0,075	0,063	-0,516*	0,244	-0,157	0,159			0,055	0,060	-0,176**	0,061
hsh head employed in a cooperative	-0,323	0,292	-0,203	0,184	0,346	0,312	-0,536+	0,300	-0,631*	0,297			-0,050	0,032	-0,232	0,164
female hsh head	0,002	0,020	0,077+	0,043	0,052**	0,019	0,002	0,026	-0,028	0,022	-0,031	0,020	-0,030	0,022	-0,045*	0,022
primary or less education of hsh head	-0,029	0,048	0,004	0,032	0,086*	0,034	0,170+	0,093	0,058	0,037	0,060	0,065	0,158	0,141	0,129	0,166
tertiary education of the hsh head	0,075*	0,029	-0,023	0,046	0,035	0,032	0,076*	0,037	0,072**	0,024	0,082**	0,020	0,114**	0,044	0,120**	0,022
_cons	12,111	0,069	6,502	0,284	7,500	0,280	8,231	0,447	4,705	0,133	4,996	0,260	5,866	0,158	5,865	0,134

Level of significance: +p<0.10; * p<0.05; ** p<0.01;
Source: Author's computations based on NSI HBS database;