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Abstract

In this paper, we analyze the relationship between personal opinions about the social security system and levels of informal employment using data from a recent household survey carried out in Bulgaria. We compare different indicators of job informality, focusing on the lack of social security affiliation as the main indicator. Our results suggest that low value is attached to social security affiliation and that knowledge of the social security system is very limited. As a consequence, many workers seem to choose informal jobs because they think that the benefits from being affiliated with the social security system are too low compared with the costs. On the other hand, being affiliated does not seem to matter in terms of overall job satisfaction.

Keywords: Informality, Job satisfaction, Social Security, Subjective beliefs.
JEL classification: H31, H55, J28.

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1. Introduction

An open issue in the literature on informality is whether informal employment is a choice or is the only alternative to unemployment. A recent branch of the literature is exploring the hypothesis that the informal economy may be composed of two tiers of entrants, one consisting of those who entered voluntarily and one consisting of those for whom the informal employment was a last resort because they were unable to enter the formal economy or the upper tier of the informal economy (see for example Maloney, 2004 and Fields, 2005).

Previous empirical studies on informality have relied upon limited information from household surveys, which usually do not provide details on individual characteristics, apart from standard socio-demographic variables. In this paper, we use the new World Bank 2007 Bulgaria Multi-topic Household Survey (BMTHS), which made a point of collecting household- and individual-level information on informal employment. Besides asking many details about respondents' employment status and job characteristics (related to both their current activities and their activities during the previous 12 months), the survey included a set of innovative questions about job satisfaction and about the respondents' personal opinions regarding the role and the future of the social security system.[1] As a consequence, the survey data made it possible for us to explore the issue of informality in much deeper detail than in the recent literature.

In order to study the nature of informality, the first issue is to adopt a precise definition of the phenomenon. According to the International Labour Organization (ILO), the informal economy "refers to all economic activities by workers and economic units that are – in law or in practice – not covered or insufficiently covered by formal arrangements" (ILO, 2002). More specifically, the 17th International Conference of Labor Statisticians (ICLS) defined informal employment as the total number of informal jobs "whether carried out in formal sector enterprises, informal sector enterprises, or households" (ILO, 2003).

But how are "informal jobs" identified in practice? Several different criteria have been used in the empirical literature. For example, jobs have been considered to be informal if: (i) the individual is self-employed (Magnac, 1991); (ii) the business is not registered with the authorities (Fortin *et al*., 1997); (iii) the business has fewer than six employees (Rauch, 1991; Funkhouser, 1996; Gong and van Soest, 2001; and Pisani and Pagán, 2004); (iv) the employer or the worker does not contribute to social security (Ahn and De La Rica, 1997; and Marcouiller *et al*., 1997); or (v) the worker does not have a contract (Yamada, 1996). In

[1] The questions on informal employment and on subjective beliefs were previously tested in two pilot surveys conducted in Bulgaria and Colombia. A detailed presentation of the questionnaire and of the results of the pilot surveys can be found in Peracchi *et al*. (2007).

this paper, we focus on the lack of contributions to social security as the main indicator of job informality, but we consider alternative indicators as well, such as the type of employment (self-employed or not), the size of the business, and the lack of a contract. Actually, we find that different indicators measure different phenomena. Although lower educational attainments are always associated with a higher probability of holding an informal job (regardless of the definition that is used), the determinants of self-employment are different from the variables explaining the lack of social security affiliation or the fact of working in a small firm.

Depending on which definition is used, different reasons may influence the decision to participate in the informal economy. If informality is identified with self-employment, an individual may choose to work informally either because she prefers to organize her work by herself or because she wants to avoid regulations. On the other hand, if we define as informal any job for which social security contributions are not paid, the reasons for working informally may include having a negative opinion about the social security system or not being interested in some of the insurance programs included in the social security package.

This paper contributes to the current debate by assessing the relationship between personal attitudes and informal employment. We ask whether people's opinions about the social security system affect their decisions to take an informal job and whether social security affiliation affects job satisfaction. Further, we consider the informality status of all household members to see whether individuals in the same family tend to have similar jobs. We find that individuals have very poor knowledge of the social security system, and that affiliation does not matter for overall job satisfaction.

In addition, individuals who are not affiliated are less likely to agree with statements about the usefulness of paying social security contributions. These results suggest that social security affiliation is not valued, possibly due to the lack of information about the system, and therefore it does not play a major role in the choice of a job.

This paper is organized as follows. In Section 2, we review the main characteristics of the Bulgarian social security system. In Section 3, we describe the dataset and sample characteristics. In Section 4 we present our empirical results, and in Section 5 we present our conclusions.

2. Basic characteristics of the Bulgarian social security system

The Bulgarian economy transitioned to a market-based system during the 1990s, accompanied by a large drop in GDP and by a subsequent improvement in the economic cycle. The social security system experienced serious financial troubles as a consequence of generous eligibility conditions and concurrent decrease in the number of contributors, due to high unemployment, migration, and large informal employment.

Between 2000 and 2002, a major reform took place, introducing a second pillar in the previous purely

social-insurance framework. An interesting discussion of the Bulgarian pension reform is provided by Asenova and McKinnon (2007). Coverage is now mandatory and universal under the first pillar (social insurance). From 2002, participation in the second pillar, based on individual accounts, is also mandatory for people born after December 31, 1959. A third pillar based on voluntary individual accounts was also introduced. The retirement age has increased due to the reform, reaching 63 years for men and 60 years for women in 2009. In order to receive the social insurance pension, the sum of age and years of contribution must be no less than 100 for men and 91 for women. The contribution towards old age, survivor and disability pension was 23 percent of earnings at the time of the BMTHS fieldwork (ISSA Social Security Worldwide 2006), whereas the average pension was 39.3 percent of per capita income (2004 World Development Indicators). A survivor pension worth 50 percent of the insured person's pension is paid to surviving children below age 18, or to a surviving spouse within 5 years of attaining the normal retirement age.

Health insurance is also mandatory, and qualifying conditions are 6 months of insurance coverage for cash benefits, and residency in the country for medical benefits. The medical benefits for both workers and dependants include general and specialist care, hospitalization, and prescribed medicines.

3. Data

In order to study informality issues with greater accuracy, specific innovative questions were included in the Bulgaria Multi-topic Household Survey (BMTHS) that was carried out in the spring and summer of 2007 by TNS Balkan British Social Surveys, in cooperation with the World Bank. The resulting dataset contains information on 8,310 household members aged 15–64. The distribution of the BMTHS sample by gender, age, and educational attainments is very close to that in the 2006 EUROSTAT Labour Force Survey for Bulgaria (see Appendix A).

Since we want to analyze the relationship between informal employment and personal opinions about the social security system, we restrict our sample to those individuals doing paid work who answered the questions on "Subjective beliefs and perceptions" in Section 14 of the BMTHS questionnaire (see Appendix B). Given that one member per household was asked the questions in this module, our sample consists of 1,644 individuals comprising household heads or their partners and aged 20–64.[2]

Therefore, compared with the full sample aged 15–64, our sample includes a slightly higher percentage of women and a much higher percentage of individuals with tertiary education, who are household heads, and who are married. After excluding individuals for whom any of the variables of interest is missing (22 percent

[2] Very few individuals under 20 years of age have been dropped (less than 1 percent of the sample).

among men and 19 percent among women), we are left with a final sample of 1,310 individuals (615 men and 695 women).[3]

Table 1 presents the estimates of two logistic regression models in which the dependent variable is a binary indicator that is equal to 1 if the individual is included in the sample and is 0 otherwise. The first model includes only basic demographic covariates (binary indicators for age group, gender, educational attainments, marital status, geographical area, and ethnicity, plus the number of household members), whereas the second model also includes several binary indicators of self-reported health status and information on the interview itself (binary indicators for the month when the interview was carried out and its duration in minutes), on the interviewers and their supervisors (only their gender is available). Some interview and interviewer details seem to be related to nonresponse (the probability of being included in the sample is higher for individuals interviewed by a woman and lower for individuals interviewed in August or with a female supervisor). As for the respondents' characteristics, low educational attainments and living in Sofia are negatively related to the probability of being included in the sample, whereas health-related variables do not seem to matter, except for reporting teeth problems, which is associated with a higher probability of being included in the sample.

Table 2 shows the distribution of the sample by gender, age group, and educational attainments, and Table 3 presents summary statistics for all the variables used in our analysis.

4. Empirical results

In this section, we study the relationship between informal employment and personal opinions about the social security system. In order to identify informal jobs, we first define several criteria previously adopted in the empirical literature, and we investigate the relationship between the different measures of informality.

4.1. Alternative measures of informality

All the informality indicators defined in this section are based on the characteristics of the main job, which is defined as the one that usually requires the most hours during the week.

The first indicator of informality is the lack of social security contributions (Ahn and De La Rica, 1997 and Marcouiller *et al*., 1997). The survey question used is the following (BMTHS Section 7d, Q16):

> *Are you currently affiliated to social security through this job, i.e. does this job provide insurance for old age, disability, unemployment, sickness, maternity?*

[3] Given the high fraction of missing values, our estimates could be affected by sample selection bias due to nonresponse. For this reason, all the models in this paper have also been estimated using a maximum likelihood probit model that takes sample selection into account, but we have not found any major differences in the results (available upon request).

The second indicator is based on the employment relationship, because informality is often identified with self-employment (Magnac, 1991). The survey question is (BMTHS Section 7d, Q10):

> *In this job are you: An employer with employees/Self-employed (without hired labor)/A salaried worker/A paid family worker/An unpaid family worker?*

The self-employment indicator is equal to 1 if the worker reports her status as "Self-employed (without hired labor)" and 0 otherwise.[4]

A third indicator of informality is based on the size of the business (Rauch, 1991; Funkhouser, 1996; Gong and van Soest, 2001; and Pisani and Pagán, 2004). The survey question is (BMTHS Section 7d, Q8):

> *How many employees are there in the company including yourself at the current time?*

If the business has fewer than six employees, it is considered to be a "small firm". For employees only, a fourth indicator of informality is the lack of a written contract (Yamada, 1996). The related question is (BMTHS Section 7d, Q11):

> *What contract do you have signed with your employer?*

Possible answers are "Labour contract", "Official legal employment (civil servant)", "Civil contract", "Other contract", or "No written contract". The worker is identified as having no contract if she answers "No written contract".

As for employment status, Table 3 shows that 89 percent of our sample define themselves as employees, whereas 5 percent report themselves as self-employed, 4 percent identify themselves as employers, and 2 percent declare themselves to be paid family workers. The percentage of self-employed is very low compared with the EUROSTAT 2006 Labour Force Survey estimate (27.8 percent of total employment). However, we are focusing on household heads and their partners, and we are excluding unpaid family workers, who may alternatively define themselves as self-employed. Since unpaid family workers are a high proportion of workers in the 15–19 age group and since self-employment is a little higher among household members who are not heads or their partners, our sample selection might explain at least part of this difference.[5]

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[4] Note that unpaid family workers are excluded from the subsample of individuals doing paid work.

[5] The EUROSTAT LFS definition of self-employment is the following: "Self-employed are persons who work in their own business, farm or professional practice. A self-employed person is considered to be working if she/he meets one of the following criteria: works for the purpose of earning profit, spends time on the operation of a business or is in the process of setting up its business." http://europa.eu.int/estatref/info/sdds/en/lfsi/lfsi_adj_sm.htm.

In the current empirical literature, the different indicators of informality are often used as proxies for one another (for instance, it is assumed that all self-employed workers can be considered as informal because they are less likely to comply with regulations than dependent employees). However, each indicator focuses on a specific characteristic of the job, and it may not be so strictly related to the alternative measures. In this paper, we adopt the lack of affiliation with social security as the main informality indicator and we assess its relationship with other measures of informality.

Table 4 shows the percentage of workers who are not affiliated with social security first as a proportion of the full sample and then calculated: (i) only for the self-employed; (ii) only for employees without a contract; and (iii) only for people working in a small firm. Among the full sample, the percentage of workers who are not affiliated with social security is higher for men than for women (8 percent versus 6 percent), and it is higher at younger ages for men and at older ages for women. On the other hand, compared to the full sample, the percentage of workers not affiliated with social security is much higher among the self-employed (33 percent for men and 25 percent for women). For both men and women, almost all workers without a written contract are also not affiliated with social security, whereas the percentage of non-affiliated workers among those working in a small firm ranges between 19 and 33 percent for men and between 10 and 16 percent for women. Summing up these results, we can conclude that, while the lack of a contract is a good proxy for the lack of affiliation with social security, self-employment and working in a small firm do not necessarily imply that workers are not protected by social security insurance programs.

In order to evaluate what individual and household characteristics have a statistically significant relationship with the probability of holding an informal job, we estimate simple logistic regression models where the dependent variable is an indicator of informality, equal to 1 if the worker holds an informal job, and 0 otherwise. The model is estimated first for the full sample of workers, and then for the subsample of employees only. As for informality indicators, for the full sample we use lack of affiliation with social security, small firm size, and self-employment, whereas for employees we use lack of affiliation with social security, small firm size, and lack of a contract. The main regressors are binary indicators for age group (20–29, 45–54, 55–64, and a baseline category 30–44), gender (equal to 1 if a woman and 0 otherwise), educational attainments (lower education, corresponding to primary education or less, higher education, corresponding to tertiary education, and a baseline category for intermediate education), and marital status (equal to 1 if married or cohabiting with a partner and 0 otherwise). We also include a binary indicator that is equal to 1 if the individual is living in Sofia city and 0 otherwise, and a variable that accounts for the age at which the respondent first started working, standardized so that the intercept of the model corresponds with the log-odds of holding an informal job for an individual who started working at 20 years of age. Other variables related to household characteristics are the logarithm of monthly per capita household income and binary indicators for home ownership (equal to 1 if the household owns the dwelling and 0 otherwise), for

the affiliation status of other household members (equal to 1 if at least one other person in the household is working and is affiliated with social security and 0 otherwise), for any other household member being self-employed, and for any other household member working in a small firm.

The estimates of the model are presented in Table 5: the first three columns refer to the full sample of workers, whereas the last three columns refer to the subsample of employees. The table confirms that the indicators of informality are actually different, because they are related in different ways to the regressors. In both samples, women are more likely to work in a small firm. The parameter for being married or cohabiting is always negative but only statistically significant at the 5 percent level in the subsample of employees. On the other hand, lower educational attainments are associated with a higher probability of holding an informal job, independently of the informality indicator. Living in Sofia city seems to be associated with a higher probability of not being affiliated with social security, but not with other informality indicators. The same holds for young age at the time of the first job, although this variable seems to be relevant also for the lack of a contract. Age does not seem to play an important role, except for a U-shaped relationship with the probability of being an employee in a small firm. Home ownership by the household does not seem to matter, except for a lower probability of being a non-affiliated employee, whereas higher per capita household income is associated with a higher probability of being self-employed and with a lower probability for employees of working in a small firm. The formal/informal nature of jobs held by other household members seems to be very important, and we discuss it in the next section.

4.2. Informality within the household

An important explanatory variable in the models for job informality presented in Table 5 is whether other household members hold informal jobs. In addition, there is further evidence that each informality indicator actually provides a different piece of information.

The presence of a household member affiliated with social security is associated with a higher probability of being affiliated, whereas it is not significantly related to the probability of working informally according to other definitions of informality. The binary indicator for other household members working in a small firm is positively related to the probability of working in a small firm, but again it is not statistically significant for other types of informality. On the other hand, the presence of self-employed individuals in the household is associated with a higher probability of holding an informal job, however defined, but this relationship is not statistically significant in the subsample of employees.

An important issue when examining the relationship between the affiliation statuses of different household members is the role of co-insurance, namely the possibility that a member does not contribute to social security because she is already covered by the social insurance associated with another household member's job. However, since members of the same household tend to be either all affiliated or all not affiliated, co-insurance does not seem to play any role in our sample.

A homogenous behavior within the household therefore emerges, although alternative interpretations are equally plausible, such as: (i) the decision about whether to contribute to social security is taken at the household level; (ii) workers become aware of the advantages of social security affiliation through social learning (i.e. by looking at what other household members do); or (iii) individuals in the same household tend to choose (or to find) similar jobs. In addition, since the dataset is a cross-section, we cannot control for unobserved individual or household characteristics.

4.3. Does social security affiliation affect job satisfaction?

In this paper, we want to provide some evidence on the voluntary or involuntary nature of informal employment. In order to do so, we can rely on several variables that reflect what workers think about the social security system and about the quality of their own job. As for satisfaction with the respondent's main job, the survey asks the following question (BMTHS Section 7d, Q28):

> *Overall, how satisfied are you with this job?*

with the following possible answers: "Very satisfied", "Satisfied", "Neither satisfied nor dissatisfied", "Dissatisfied", and "Very dissatisfied". We define a binary indicator of satisfaction that is equal to 1 if the respondent answers "Very satisfied" or "Satisfied" and 0 otherwise. The percentage of workers who say they are satisfied is 73 percent in the sample and higher for men than for women.

Another question that we want to address is how satisfaction with specific job characteristics may affect overall job satisfaction. For this purpose, the survey questionnaire contains the following question, repeated for different job features (BMTHS Section 7d, Q27):

> *How satisfied are you with respect to the following characteristics of this job?*
>
> *Working hours | Social security affiliation | Earnings (Including fringe benefits) | Flexibility (hours, workload) | Work environment*

The possible answers are the same as for question Q28. Table 6 presents the estimates of a logistic regression model where the dependent variable is equal to 1 if the worker says he or she is satisfied and 0 otherwise. First we look at overall satisfaction with the main job, and then we focus on satisfaction with: social security affiliation status, earnings, and number of hours worked. The regressors are the same variables used in Table 5 plus some relevant job characteristics such as the logarithm of hourly wages, a second-order polynomial in weekly hours of work, and a binary indicator for the lack of affiliation with social security. Finally, we estimate the model for overall job satisfaction by replacing job characteristics such as wages, number of hours worked, and affiliation status with the binary indicators of satisfaction with the corresponding job characteristic (in other words, satisfaction with earnings, satisfaction with hours worked, and satisfaction with social security affiliation status).

Focusing on the first four columns, age, gender, marital status and age at first job do not seem to affect overall job satisfaction nor satisfaction with specific job characteristics. On the other hand, living in Sofia city or in Sofia province is associated with a lower probability of saying to be satisfied with any job characteristic, whereas workers with lower educational attainments are more likely to say that they are overall satisfied with their job. In all models, satisfaction seems to have a U-shaped relationship with educational attainments, but the coefficients are not statistically significant at the 10 percent level. As for job characteristics, we find that higher hourly wages increase the probability of saying to be satisfied overall and with any job characteristic, whereas the relationship with hours worked has an inverted-U shape for the probability of saying to be overall satisfied or satisfied with earnings, and is negative for the probability of saying to be satisfied with the number of hours worked. In other words, given hourly wages and compared with the baseline respondent, the probability of being satisfied with one's earnings is higher for people who work more hours**,** but it starts decreasing for individuals working too many hours, while working more hours of work always reduces the probability of reporting satisfaction with the number of hours worked. Overall, working more hours increases job satisfaction but not above a certain threshold. As for the lack of social security affiliation, it does of course matter for satisfaction with social security affiliation, but in all other models the parameter is negative but not statistically significant at the 10 percent level.

Turning to household-level characteristics, home ownership does not seem to affect job satisfaction, whereas higher per capita household income increases the probability of overall satisfaction and of satisfaction with each job characteristic except social security affiliation. The type of job held by other household members does not seem to be relevant, except that individuals in households where at least one member is self-employed are less likely to be satisfied with their social security affiliation status. In the last column of Table 6, we estimate the model for overall job satisfaction as in the first column, but with satisfaction with a certain job characteristic used as a regressor instead of the job characteristic itself. In this model, age, gender, and educational attainments do not seem to matter. Again, we find that there is a positive effect of household income on job satisfaction, and, as expected, satisfaction with a particular job characteristic increases the probability of saying to be overall satisfied with the job, although the most important factors seem to be earnings and number of hours worked rather than social security affiliation.

4.4. Personal views about the social security system: differences between formal and informal workers

If we define informality as the lack of social security affiliation, an important question is whether individuals choose informal employment because of what they think about the role of the social security system, and because of what they expect to receive from it. The BMTHS survey enables us to investigate these issues, which have barely been explored or included in household surveys in the context of transition countries. One example of a previous study that addresses personal opinions about the welfare state is Boeri *et al*. (2001), who found a large degree of misinformation and pessimism about the welfare state in France, Germany, Italy and Spain. However, to our knowledge, there is no previous study that relates personal opinions to informal

employment.

First, we try to assess how many workers are well-informed about the rules of the social security system. One of the simplest ways to address this issue is to ask what the individual thinks the minimum age requirements are for the old age pension benefit. The corresponding question in the BMTHS is (Section 14, Q4):

> *In order to be eligible for the public old age pension, what do you think is the minimum age for a person of your same gender?*

Since the Bulgarian social security system has been recently reformed and the minimum age requirements for women are increasing by six months each year until 2009, interviewers were asked to write down both the number of years and the number of months if provided by the respondents. The correct answer in 2007 would be 63 for men and 59 for women, although we cannot exclude the possibility that, when female workers were asked this question, they answered with the requirement that would apply to them instead of the current requirement. The percentage of people who are correctly informed about minimum age requirements is very low (2 percent), particularly among women (1 percent compared with 3 percent among men), probably as a consequence of the ongoing reform.

Another useful question to ask is about respondents' preference for either a pay-as-you-go (PAYG) or a fully funded pension system. In order to avoid technical terms, the question was asked with the following wording (BMTHS Section 14, Q2):

> *Suppose there are two possible pension schemes. In the first one, current contributions are used to finance pensions for current retirees, while in the second one, contributions add to your own pension. Which would you prefer?*

We define an individual as preferring a PAYG system if she prefers the first option, and as preferring a fully funded system if she says to prefer the second option. The percentage of people preferring a PAYG pension system is equal to 37 percent (39 percent among men and 35 percent among women).

An interesting difference arises when workers are asked what they expect about the future generosity of the social security system (BMTHS Section 14, Q7):

> *In your opinion, over the next 10 years the public social security system will be more generous, less generous, or unchanged?*

We define respondents as optimists if they answer that the system will become more generous. The percentage of optimists is about 34 percent of the sample (35 percent for men and 33 percent for women).

In order to find out whether respondents' personal views about the social security system have a systematic relationship with the indicators of informality, we estimate a logistic regression model in which

the dependent variable is a binary indicator for: (i) being correctly informed about the minimum age requirements for the old age pension; (ii) preferring a pay-as-you-go (PAYG) pension scheme, and (iii) being an optimist about future generosity of the pension system (Table 7). Each model is estimated first by using only basic socio-demographic characteristics (age, gender, education, marital status, and an indicator for living in Sofia city) as regressors and then by adding a few variables on job characteristics − a binary indicator equal to 1 if the worker has held the job for more than five years and the usual informality indicators, excluding the lack of a contract, which is only applicable to employees.[6] The results show that compared with the baseline respondent, women are less likely to have accurate knowledge of the minimum age requirements, whereas workers who are close to the retirement age and who have spent more time in their current job are more likely to know the minimum age requirements.[7] Somewhat surprisingly, educational attainments and the informality status of the worker and of other household members do not seem to matter.

As for showing a preference for a PAYG pension scheme, this is more likely among older workers and less likely among women, among workers with higher education or living in Sofia city, although the parameters for these indicators have a lower significance level. On the other hand, job-related variables do not seem to be relevant to preferring a particular pension scheme.

Turning to optimism about the future generosity of the pension system, not being affiliated is associated with a lower probability of being an optimist, whereas belonging to a household where other members have a formal job is associated with a higher probability of being an optimist. With respect to standard socio-demographic variables, age and gender do not seem to affect optimism, whereas there is a positive relationship with higher educational attainments.

4.5. Preferences for different insurance programs

Since the social security system includes a variety of insurance programs, such as the old age insurance, disability and survivors insurance, sickness and maternity and unemployment insurance, it is interesting to look at how respondents value these programs, and whether they have a preference for a particular one. This kind of information is obtained by asking the following question (BMTHS Section 14, Q3):

[6] Since the percentage of individuals informed about the minimum age requirements is very small, we avoided a more detailed categorization of geographical area.

[7] Similar results were found by Boeri *et al*. (2001), although they focused on knowledge of the current social security contribution rate.

Consider the insurance programs provided by the public social security administration. Suppose that you can only increase the benefits provided by one program but, for budgetary reasons, this increase must be compensated by a decrease in all other benefits. Which of the following benefits would you like to increase, knowing that one or some of the others would decrease?

The possible answers are "Old age pension", "Survivors pension", "Disability pension", "Sickness and maternity benefits", "Work injury benefits", "Unemployment benefits", or "None". A very large percentage of the sample expresses a preference for the old age insurance program (around 84 percent for both men and women).

As we did for other issues concerning personal views about the social security system, we estimate a logistic regression model in which the dependent variable is a binary indicator for preference for a specific insurance program within the social security package (Table 8). We focus on the answers that were given by at least 2 percent of the sample, namely: (i) old age insurance (84 percent); (ii) disability insurance (4 percent); (iii) sickness and maternity benefits (4 percent); and (iv) no preference (6 percent). Each model is estimated first by using as regressors basic socio-demographic characteristics and health-related binary indicators for having a chronic disease, being a current smoker, having a self-reported reduction in activity due to health problems, having a disability, having teeth problems, and having a poor self-reported health status. The model is then estimated by adding a few variables on job characteristics, including the logarithm of monthly earnings, the number of hours worked weekly, and the usual informality indicators. In addition, in order to evaluate whether respondents' preferences for a specific program are related to their subjective perceptions of job or health risks, we include two subjective probabilities that the respondents attach to: (i) a serious illness occurring within the following 12 months and (ii) a job loss or forced business closure happening within the following 12 months (BMTHS Section 14, Q9).

Although most workers have a preference for the old age insurance, there is some variability in preferences that can be partly explained by socio-demographic and health-related variables. In particular, compared to the baseline respondent, older people are more likely to prefer the old age insurance and less likely to prefer the sickness and maternity program, which is instead more frequently preferred by women**.** Education does not seem to matter much. Marital status is not relevant, whereas living in Sofia city is associated with a higher probability of preferring the old age insurance and to a lower probability of preferring the disability insurance. As it might be expected, workers with health problems are more likely to prefer the sickness and maternity program and less likely to prefer the old age insurance. Turning to job characteristics, higher earnings are associated with a higher probability of preferring the sickness and

maternity program and with a lower probability of preferring the old age insurance, whereas the disability insurance is more likely to be preferred by individuals who work more hours and who assign a higher probability to an illness occurring within the following 12 months. After controlling for all these variables, we find that the informality indicators do not have a systematic relationship with a preference for any particular insurance program.

There are several possible reasons for the lack of any preference among the programs included in the social security package, including a distrust or lack of knowledge of the system. From the estimated model in the last two columns of Table 8, workers who live in Sofia city or who attach a higher probability to a job loss are more likely to express a preference, whereas workers who are current smokers or whose activities have been reduced because of health problems are more likely to express no preference.

4.6. Reasons for paying social security contributions

A final set of questions concerns the role played by social security contributions. In particular, we look at whether the survey respondents see these contributions as a sign of job stability, as a good investment for the future, as a way to help poorer and older people, or simply as a way to force workers to save for future needs. The relevant survey question is (BMTHS Section 14, Q1):

> *The following statements are related to Social Security Contributions (SSC). Please tell us how much you agree or disagree with each statement.*
>
> *1. Jobs that require SSC are more stable.*
>
> *2. Paying SSC today is a good deal for me because the return is guaranteed.*
>
> *3. Paying SSC provides help for poorer or older people.*
>
> *4. If I do not pay SSC I may end up not saving enough.*

The possible answers are “Strongly agree”, “Agree”, “Neither agree nor disagree”, “Disagree”, or “Strongly disagree”. We consider an individual as agreeing if he or she answers “Strongly agree” or “Agree”.

In order to detect any systematic relationship between agreeing with any of the statements about social security contributions and socio-demographic variables, we estimate a logistic regression model for the binary indicator of agreement with each statement, first by using the standard demographic and health-related variables and then by including additional regressors such as the logarithm of monthly earnings, the usual informality indicators, a binary indicator equal to 1 if the worker is well informed about the minimum age requirements for the old age pension, and the logarithm of per capita household income.

Compared with the baseline respondent, older workers are more likely to agree that social security contributions are a good deal or determine higher savings, whereas lower educational attainments are associated with a lower probability of agreeing with almost any statement, and gender does not seem to

matter. Workers who are married or living with a partner are more likely to agree that social security contributions are associated with more stable jobs, while workers living in Sofia city are less likely to think that social security contributions are a good deal or provide help for poorer and older people. The role of health-related variables is not straightforward, although it seems that workers with reduced activity are more likely to agree that social security contributions determine higher savings. Individual earned income does not seem to be relevant, whereas higher per capita household income is associated with a higher probability of agreeing that social security contributions are a good deal or that they provide help for poorer or older people.

As for the informality indicators, it is worth noting that, while self-employment is not statistically significant, workers who are not affiliated with social security or who work in a small firm are significantly less likely to agree that social security contributions are a good deal or are associated with greater job stability. Finally, being correctly informed about the minimum age requirements for the old age pension does not seem to matter.

4.7. Is the lack of affiliation involuntary?

In the previous section, we discussed whether workers attribute any positive roles to social security contributions. However, there may be other reasons why individuals do not pay them. In particular, we are interested in assessing the voluntary or involuntary nature of the lack of affiliation with social security. The BMTHS survey question, which was only asked to those who were not affiliated through their main job (86 individuals in our selected sample) was (BMTHS Section 7d, Q17):

What is the main reason you are not affiliated to social security through this job?

A list of possible answers was available, but respondents could also provide their own answers. The distribution of answers is presented in Table 10. We divide the answers into three main groups: (i) a voluntary lack of affiliation; (ii) an involuntary lack of affiliation; and (iii) a lack of necessary knowledge. It is important to stress how we categorize the answers into these groups. A voluntary lack of affiliation, for example, includes all answers in which the lack of affiliation seems to be the result of the worker's decision, given the constraints that may have affected the decision. In other words, earning a low income may induce workers to avoid affiliation, which would mean that the lack of affiliation is voluntary, but it would not necessarily mean that those workers are happy with their affiliation status. Accordingly, we define a lack of affiliation as voluntary if the respondent answers "Benefits are too low compared to the costs", "Salary is too low to afford it", "Already paid enough in the past", "Have access to pension through other household member", "Have other sources of income", "Don't want to deal with bureaucracy" or "Self-secured". We define the lack of affiliation as involuntary if the respondent answers "No choice (circumstances, decision of the employer, etc.)". Finally, we consider the lack of affiliation to be due to a lack of knowledge if

respondents answer "Don't know how to do it".

As for the relationship of voluntary/involuntary lack of affiliation with basic socio-demographic characteristics, the very low number of observations does not allow us to come to any statistically significant conclusions when all the covariates are considered simultaneously. Nonetheless, we look at the distribution of answers according to several demographic indicators and to some of the personal opinion indicators previously defined. The first column of Table 10 shows the distribution of answers among all the individuals who say that they are not affiliated with social security. The lack of affiliation seems to be involuntary for 33 percent, voluntary for 64 percent, and due to lack of knowledge for the remaining 3 percent. However, among those whose lack of affiliation is voluntary, roughly one third say that they are not affiliated because their salary too low. Compared with the full sample, the percentage of those whose lack of affiliation is categorized as involuntary is slightly lower among women (29 percent), whereas it is much lower among individuals with higher educational attainments (10 percent). Involuntary lack of affiliation is also less likely among the self-employed (15 percent), who are more likely than the full sample to answer that they do not want to deal with bureaucracy (15 percent versus 9 percent in the full sample). Even though individuals with higher education and the self-employed have a similar percentage of individuals whose lack of affiliation is voluntary, respondents with high education are more likely than the self-employed to say that they have already paid enough (40 percent versus 10 percent). Compared with the full sample, the lack of affiliation is less likely to be involuntary for individuals who work in small firms (21 percent compared with 33 percent in the full sample). As it might have been expected, the percentage of those reporting an involuntary lack of affiliation is a little higher among those who think that the social security system will become more generous over the following 10 years (36 percent), whereas it is extremely low among those who say that they are satisfied with their social security affiliation status (10 percent).

The last two rows of Table 10 show the results of the significance test for the difference in the share of those with an involuntary lack of affiliation, conditional on the value of the binary indicator considered. The table confirms that the percentage of individuals with an involuntary lack of affiliation is: (i) lower for individuals with tertiary education than for those with primary or secondary education; (ii) lower for the self-employed than for employees, employers, and paid family workers; (iii) lower for those who work in a small firm than for those who work in larger firms; and (iv) lower for those who are satisfied with their social security affiliation status than for those who say they are not satisfied. All other differences are not statistically significant at the 10 percent level.

4.8. Comparison with the results from a pilot survey

Some of our results can be compared with the findings of the preliminary analysis by Peracchi *et al*. (2007), using data from a pilot survey carried out in Bulgaria in order to test the new module on informality. However, even for those models that are comparable, this paper extends the analysis by using additional

covariates that may affect the impact of basic demographic variables. A common result is that the probability of holding an informal job is lower for individuals with higher levels of education. On the other hand, in both studies women are more likely to work in a small firm, whereas in our analysis age is no longer relevant after controlling for age at first job. As for job satisfaction, a common finding is that age and gender do not seem to be relevant, whereas social security affiliation is of course associated with a higher probability of being satisfied with social security affiliation. However, in our analysis, social security affiliation is not relevant to overall job satisfaction. As for personal opinions about social security contributions, both analyses show that older people are more likely to say that they are a good deal. On the other hand, only in our analysis respondents with higher education are more likely to agree that social security contributions are a good deal or that they provide help for poor people, and more likely to be optimistic about the future generosity of the pension system.

5. Conclusions

In this paper, we analyze the relationship between individuals' opinions on the social security system and informal employment, using data from a new household survey carried out in Bulgaria on behalf of the World Bank. The survey questionnaire contains a specific module on subjective beliefs, and these questions were only asked to one member of each household, either the household head or his or her partner. As a consequence, our analysis is carried out on a sample of household heads and partners of household heads.

In contrast with many previous studies on informality, we exploit the information yielded by several indicators of informality, namely the lack of social security affiliation, self-employment, and small firm size. We find that these measures are actually very different from each other, because the probability of holding an informal job has a different relationship with basic socio-demographic characteristics depending on which indicator is used. One result that is found across all the informality indicators is that low educational attainments are associated with a higher probability of holding an informal job. On the other hand, women are more likely to work in a small firm but not to hold an informal job as defined by other informality indicators. Higher per capita household income is associated with a higher probability of being self-employed and with a lower probability of working in a small firm.

We find that members of the same household tend to hold similar jobs as far as informality is concerned. However, other household members holding informal jobs is associated with a higher probability of the respondent holding an informal job only when using the same informality indicator both for the respondent and for the other members of the household. For example, other household members working in a small firm is positively related to the probability of the respondent working in a small firm but not to the probability of the respondent holding an informal job according to other informality indicators. However, the presence of self-employed individuals in the household is associated with a higher probability of the respondent holding an informal job, independently of the informality indicator.

Turning to subjective beliefs and opinions, we use answers to questions about job satisfaction to evaluate the importance of social security affiliation for job satisfaction. We find that affiliation is associated with a higher probability of being satisfied with social security affiliation status, but it does not affect overall job satisfaction. In addition, in the model for the probability of overall job satisfaction, being satisfied with earnings and with hours worked seems to be much more important than being satisfied with social security affiliation.

As a measure of knowledge of the social security system, we use the percentage of correct answers to a question about the minimum age requirements for the old age pension. A very small fraction of respondents give the correct answers, which are more frequent among workers close to the retirement age or who have a longer tenure in their jobs, whereas correct answers are less frequent among women, probably because the age requirements were changing at the time of the interview, as a consequence of an ongoing reform.

Finally, we discuss the voluntary or involuntary nature of informal employment. We find that the lack of affiliation to social security is voluntary for a large percentage of individuals, although by "voluntary" we simply mean that the decision was made by the worker and not by the employer. In fact, non-affiliated workers are less likely to think that the social security system will become more generous within the following 10 years and less likely to agree with such statements as "social security contributions are a good deal", "social security contributions provide help for poorer or older people", or "jobs that require social security contributions are more stable". In addition, among non-affiliated workers, the percentage of individuals who say that they are not affiliated because they had no choice (because of circumstances or because their employer made the decision) is lower among individuals with tertiary education than among those with lower levels of education, lower among the self-employed than among those in other types of employment, and lower among individuals who work in small firms than among those who work in large firms. Again, it is important to stress that we define the lack of affiliation as voluntary if the affiliation decision was taken by the worker. Among this group, roughly one third say they are not affiliated because their salary is too low to afford it. As a consequence, a voluntary lack of affiliation is not always associated with satisfaction with affiliation status.

Overall, our results suggest that respondents attach a low value to social security affiliation, and that knowledge of the social security system is very limited. As a consequence, many workers seem to choose informal jobs because they consider that the benefits accruing from affiliation are too low compared to the costs.

References

Ahn, N. and S. De La Rica (1997), "The underground economy in Spain: An alternative to unemployment?", *Applied Economics*, 29, 733–743.

Asenova, D. and R. McKinnon, "The Bulgarian pension reform: post-accession issues and challenges", *Journal of European Social Policy*, 17, 389–396.

Boeri, T., A. Boersch-Supan, and G. Tabellini (2001), "Would you like to shrink the welfare state? The opinions of European citizens", *Economic Policy*, 32, 9–50.

Fields, G.S. (2005), "A Guide to Multisector Labor Market Models", Social Protection Discussion Paper No. 0505, World Bank, Washington DC.

Fortin, B., N. Marceau, and L. Savard (1997). "Taxation, wage controls and the informal sector", *Journal of Public Economics*, 66, 293–312.

Funkhouser, E. (1996), "The urban informal sector in Central America: Household survey evidence", *World Development*, 24, 1737–1751.

Gong, X. and A. van Soest (2002), "Wage differentials and mobility in the urban labor market: A panel data analysis for Mexico", *Labour Economics*, 9, 513–529.

ILO (2002), *Resolution Concerning Decent Work and the Informal Economy*, ILC 90, Geneva.

ILO (2003), *Report of the Seventeenth International Conference of Labour Statisticians*, Geneva.

Magnac, T. (1991), "Segmented or competitive labor markets?", *Econometrica*, 59, 165–187.

Maloney, W. F. (2004), "Informality revisited", *World Development*, 32, 1159–1178.

Marcouiller, D., V. Ruiz de Castilla, and C. Woodruff (1997), "Formal measures of the informal sector wage gap in Mexico, El Salvador, and Peru", *Economic Development and Cultural Change*, 45, 367–392.

Peracchi, F., V. Perotti, and S. Scarpetta (2007), "Informality and social protection: Preliminary results from pilot surveys in Bulgaria and Colombia", Social Protection Discussion Paper No. 0717, World Bank, Washington DC.

Pisani, M. J. and J. A. Pagán (2004), "Sectoral selection and informality: A Nicaraguan case study", *Review of Development Economics*, 8, 541–556.

Rauch, J.E. (1991), "Modelling the informal sector formally", *Journal of Development Economics*, 35, 33–47.

Yamada, G. (1996), "Urban informal employment and self-employment in developing countries: Theory and evidence", *Economic Development and Cultural Change*, 44, 289–314.

Table 1: Estimated logistic regression models for being in the sample.

Variable		
Age 20–29	-0.346	-0.368
Age 45–54	0.123	0.077
Age 55–64	0.073	0.074
Female	0.203	0.213
Lower education	-0.698 ***	-0.640 ***
Higher education	0.047	0.070
Married/cohabitant	0.009	0.023
Sofia city	-1.354 ***	-1.178 ***
Household size	-0.036	-0.047
Turkish	0.277	0.324
Roma	0.325	0.403
Other ethnicity	0.580	0.717
Chronic disease		-0.225
Currently smoking		-0.046
Reduced activity		0.106
Disabled		-0.513
Teeth problems		0.389 ***
April		0.254
May		0.138
July		0.055
August		-0.973 ***
Female supervisor		-0.479 **
Female interviewer		0.535 ***
More visits necessary		0.251 *
Duration of interview		-0.001
Constant	1.705 ***	1.572 ***
No. obs.	1644	1644
Log-likelihood	-779.3	-757.6
Pseudo R^2	0.061	0.087

Notes: * denotes asymptotic p-values between 5 and 10 percent. ** denotes asymptotic p-values between1 and 5 percent. *** denotes asymptotic p-values below 1 percent.

Table 2: Distribution of the sample by gender, age group, and schooling attainments.

	Men				Women				Total			
Age	I	II	III	Total	I	II	III	Total	I	II	III	Total
	BMTHS frequencies											
20–29	13	24	9	46	4	23	16	43	17	47	25	89
30–44	26	139	63	228	15	151	93	259	41	290	156	487
45–54	27	134	56	217	29	129	93	251	56	263	149	468
55–64	25	71	28	124	14	78	50	142	39	149	78	266
Total	91	368	156	615	62	381	252	695	153	749	408	1310
	BMTHS percentages											
20–29	28.3	52.2	19.6	100.0	9.3	53.5	37.2	100.0	19.1	52.8	28.1	100.0
30–44	11.4	61.0	27.6	100.0	5.8	58.3	35.9	100.0	8.4	59.5	32.0	100.0
45–54	12.4	61.8	25.8	100.0	11.6	51.4	37.1	100.0	12.0	56.2	31.8	100.0
55–64	20.2	57.3	22.6	100.0	9.9	54.9	35.2	100.0	14.7	56.0	29.3	100.0
Total	14.8	59.8	25.4	100.0	8.9	54.8	36.3	100.0	11.7	57.2	31.1	100.0

Notes: I = primary. II = secondary. III = tertiary.

Table 3: Summary statistics.

Variable	Mean	SE	Variable	Mean	SE
Age 20–29	0.07	0.25	Not affiliated	0.07	0.25
Age 30–44	0.37	0.48	No contract	0.03	0.18
Age 45–54	0.36	0.48	Small firm	0.20	0.40
Age 55–64	0.20	0.40	Net monthly earnings	394.23	282.22
Lower education	0.12	0.32	Weekly hours	42.98	9.20
Intermediary education	0.57	0.50	Hourly wages	2.18	1.55
Higher education	0.31	0.46	Tenure > 5 years	0.63	0.48
Female	0.53	0.50	Age started work	20.35	2.61
Married/cohabitant	0.82	0.38	Satisfied with job	0.73	0.44
HH head	0.63	0.48	Satisfied - SS affiliation	0.78	0.41
Partner of HH head	0.37	0.48	Satisfied - earnings	0.44	0.50
Bulgarian	0.87	0.34	Satisfied - hours	0.84	0.36
Roma	0.04	0.19	Informed about SS	0.02	0.14
Turkish	0.07	0.25	SSC - more stability	0.84	0.37
Other ethnicity	0.02	0.15	SSC - good deal	0.65	0.48
Sofia city	0.14	0.35	SSC - help	0.64	0.48
Chronic disease	0.14	0.35	SSC - more savings	0.48	0.50
Currently smoking	0.43	0.50	Preference for OAI	0.84	0.36
Reduced activity	0.04	0.21	Preference for DI	0.04	0.19
Disabled	0.03	0.16	Preference for SMI	0.04	0.20
Teeth problems	0.50	0.50	Other preference	0.02	0.14
Poor health	0.04	0.19	No preference	0.06	0.23
Prob illness	31.78	26.06	Home ownership	0.87	0.33
Prob job loss	30.58	27.75	Per capita monthly hh income	303.39	232.51
Employer	0.04	0.20	Other hh member affiliated	0.68	0.46
Self-employed	0.05	0.22	Other hh member owns a business	0.04	0.19
Employee	0.89	0.31	Other hh member self-employed	0.05	0.21
Paid family worker	0.02	0.12	Other hh member in small firm	0.18	0.39

Table 4: Percentage of workers not affiliated with social security through their main job, by gender, age group and other informality indicators.

	Men				Women				Total			
Age	All	Self-empl.	No contract	Small firm	All	Self-empl.	No contract	Small firm	All	Self-empl.	No contract	Small firm
20–29	15.2	66.7	100.0	33.3	4.7	0.0	100.0	13.3	10.1	50.0	100.0	20.8
30–44	7.9	11.1	81.8	18.9	3.9	28.6	50.0	10.5	5.7	21.7	76.9	13.8
45–54	7.4	35.7	100.0	25.0	4.8	30.8	100.0	15.6	6.0	33.3	100.0	20.0
55–64	8.1	42.9	100.0	26.1	7.7	12.5	100.0	16.2	7.9	26.7	100.0	20.0
Total	8.3	33.3	92.3	23.9	5.0	25.0	92.3	13.6	6.6	29.0	92.3	17.9

Table 5: Estimated logistic regression models for holding an informal job.

	All			Employees		
	Not affiliated	Small firm	Self-employed	Not affiliated	Small firm	No contract
Age 20–29	-0.106	0.459	-0.050	-0.238	0.922 ***	0.227
Age 45–54	0.044	-0.165	-0.074	-0.031	-0.004	-0.269
Age 55–64	0.185	0.178	-0.023	0.310	0.627 **	0.388
Female	-0.404	0.341 **	-0.034	-0.320	0.419 **	-0.598
Lower education	1.592 ***	0.301	0.957 ***	1.305 ***	0.074	1.359 ***
Higher education	-0.415	-0.351 *	-0.490	-0.677	-0.263	-0.417
Married/cohabitant	-0.433	-0.380 *	-0.026	-0.387	-0.597 **	-0.931 **
Sofia city	0.647 *	0.049	-0.741	1.055 ***	0.520 *	0.656
Age started work	-0.143 **	-0.004	0.089	-0.228 ***	-0.060	-0.251 ***
Home ownership	-0.488	-0.117	0.893	-0.726 **	-0.361	-0.758 *
Log per capita HH income	-0.091	0.009	0.558 **	-0.064	-0.635 ***	-0.535
Other hh member affiliated	-1.127 ***	0.025	-0.374	-1.255 ***	0.336	-0.827 *
Other hh member in small firm	-0.100	1.052 ***	0.065	-0.573	0.801 ***	0.389
Other hh member self-employed	1.362 **	0.765 **	2.122 ***	1.376 *	0.220	1.472 *
Constant	-1.201	-1.480 *	-6.732 ***	-1.377	1.416	0.739
No. obs.	1310	1310	1310	1164	1164	1164
Log-likelihood	-252.2	-615.3	-240.0	-186.0	-401.8	-128.2
Pseudo R^2	0.205	0.063	0.112	0.223	0.069	0.250

Notes: (* denotes asymptotic p-values between 5 and 10 percent. ** denotes asymptotic p-values between 1 and 5 percent. *** denotes asymptotic p-values below 1 percent.

Table 6: Estimated logistic regression models for satisfaction with several job characteristics.

Variable	Overall	SS affiliation	Earnings	Hours	Overall
Age 20–29	-0.336	0.036	-0.083	-0.224	-0.350
Age 45–54	-0.161	-0.137	-0.302 **	-0.247	-0.093
Age 55–64	0.145	0.297	0.137	0.297	-0.311
Female	0.158	0.307 *	-0.017	0.006	-0.164
Lower education	0.445 **	0.499 *	0.245	0.315	0.204
Higher education	0.312 *	0.279	0.171	0.244	0.421 *
Married/cohabitant	-0.099	0.267	-0.318 *	0.123	-0.000
Sofia city	-0.823 ***	-0.540 **	-1.234 ***	-0.360	-0.091
Sofia oblast	-0.830 *	-0.237	-0.865 *	0.211	-0.615
Age started work	0.037	0.020	-0.006	0.042	0.011
Log hourly wages	1.607 ***	1.118 ***	1.728 ***	0.528 **	
Weekly hours	0.026 ***	0.010	0.055 ***	-0.035 ***	
Weekly hours squared	-0.001 ***	-0.000	-0.001 ***	-0.001 *	
Not affiliated	-0.328	-3.549 ***	-0.074	-0.264	
Home ownership	-0.052	-0.066	0.077	0.313	-0.210
Log per capita monthly hh income	0.388 **	0.042	0.393 **	0.428 **	0.574 ***
Other hh member affiliated	0.031	-0.095	0.148	-0.071	-0.199
Other hh member owns a business	0.773	0.640	0.260	0.752	0.677
Other hh member self-employed	-0.363	-1.007 **	-0.278	-0.391	-0.135
Other hh member in small firm	0.215	0.054	0.298	0.190	0.108
Satisfied - earnings					2.451 ***
Satisfied - hours					2.236 ***
Satisfied - SS affiliation					1.039 ***
Constant	-1.925 **	0.434	-3.371 ***	-1.077	-4.993 ***
No. obs.	1310	1310	1310	1310	1310
Log-likelihood	-663.7	-553.2	-764.5	-515.7	-497.3
Pseudo R^2	0.128	0.191	0.148	0.090	0.347

Notes: * denotes asymptotic p-values between 5 and 10 percent. ** denotes asymptotic p-values between 1 and 5 percent. *** denotes asymptotic p-values below 1 percent.

Table 7: Estimated logistic regression models for attitudes towards social security.

Variable	Informed about SS	Informed about SS	Preference for PAYG	Preference for PAYG	Optimist about SS	Optimist about SS
Age 45–54	0.930 *	0.754	0.080	0.092	-0.072	-0.057
Age 55–64	1.191 **	0.955 *	0.428 ***	0.436 ***	-0.136	-0.086
Female	-1.001 **	-1.005 **	-0.195 *	-0.210 *	-0.112	-0.143
Lower education	0.011	-0.088	0.004	0.041	-0.003	0.226
Higher education	0.517	0.407	-0.256 *	-0.247 *	0.562 ***	0.563 ***
Married/cohabitant	-0.563	-0.315	-0.141	-0.141	0.292 *	0.072
Sofia city	0.243	0.233	-0.423 **	-0.421 **	0.088	0.109
Tenure > 5 years		1.033 *		-0.029		-0.153
Not affiliated		0.002		-0.199		-0.941 ***
Self-employed		0.273		-0.187		0.308
Small firm		-0.077		0.189		-0.099
Other hh member affiliated		-0.532		-0.005		0.315 **
Constant	-3.910 ***	-4.367 ***	-0.311 *	-0.311	-0.995 ***	-0.911 ***
No. obs.	1310	1310	1310	1310	1310	1310
Log-likelihood	-124.5	-121.8	-850.1	-849.1	-826.4	-817.6
Pseudo R^2	0.054	0.074	0.014	0.015	0.015	0.025

Notes: * denotes asymptotic p-values between 5 and 10 percent. ** denotes asymptotic p-values between 1 and 5 percent. *** denotes asymptotic p-values below 1 percent.

Table 8: Estimated logistic regression models for preference for a specific insurance program.

	OAI	OAI	D	D	SM	SM	NO	NO
Age 20–29	-0.340	-0.405	0.314	0.423	0.898 **	0.904 **	-0.785	-0.770
Age 45–54	0.512 ***	0.439 **	-0.448	-0.550	-0.539 *	-0.381	-0.184	-0.129
Age 55–64	0.920 ***	0.805 ***	-0.524	-0.602	-2.997 ***	-2.779 ***	-0.112	-0.003
Female	-0.047	-0.276	0.086	-0.048	0.436	1.023 ***	-0.139	-0.004
Lower education	-0.317	-0.305	0.153	0.042	0.241	0.355	0.190	0.415
Higher education	-0.123	-0.023	0.042	0.292	0.011	-0.328	0.232	0.050
Married/cohabitant	0.050	0.013	0.218	0.317	0.224	0.285	-0.333	-0.396
Sofia city	0.571 **	0.616 **	-2.066 **	-2.068 **	0.715 **	0.388	-1.014 *	-0.987 *
Chronic disease	-0.214	-0.291	-0.305	-0.363	0.427	0.524	0.020	0.032
Currently smoking	-0.342 **	-0.305 *	-0.356	-0.372	0.214	0.111	0.685 ***	0.678 ***
Reduced activity	-0.631	-0.849 **	0.417	0.226	0.381	0.864	1.364 **	1.507 ***
Disabled	0.423	0.435	0.411	0.148	-0.784	-0.344	-0.538	-0.562
Teeth problems	-0.027	-0.070	0.004	0.015	0.341	0.396	-0.129	-0.116
Poor health	-0.722 *	-0.838 **	0.894	0.804	1.170 *	1.583 **	-0.888	-0.830
Log earnings		-0.358 **		-0.550		1.178 ***		0.272
Weekly hours		-0.013		0.038 **		-0.005		-0.003
Not affiliated		-0.491		0.247		0.810		-0.726
Self-employed		-0.162		-0.778		0.581		0.437
Small firm		0.384		-0.331		-0.559		-0.363
Prob illness		0.004		0.022 ***		-0.024 ***		-0.001
Prob job loss		0.003		-0.005		0.010 *		-0.014 **
Constant	1.649 ***	4.247 ***	-3.084 ***	-2.157	-3.775 ***	-10.563 ***	-2.684 ***	-3.725 **
No. obs.	1310	1310	1310	1310	1310	1310	1310	1310
Log-likelihood	-543.7	-535.1	-197.7	-188.5	-212.0	-197.6	-273.1	-266.5
Pseudo R^2	0.043	0.058	0.039	0.084	0.095	0.157	0.040	0.063

Notes: OAI = old age, D = disability, SM = sickness and maternity, NO = no preference.

* denotes asymptotic p-values between 5 and 10 percent. ** denotes asymptotic p-values between 1 and 5 percent. *** denotes asymptotic p-values below 1 percent.

Table 9: Estimated logistic regression models for agreement with some statements about social security contributions.

	Deal	Deal	Save	Save	Stable	Stable	Help	Help
Age 20–29	0.047	-0.013	-0.290	-0.266	-0.111	-0.116	-0.220	-0.299
Age 45–54	0.321 **	0.262 *	0.261 **	0.257 *	0.232	0.216	0.005	-0.050
Age 55–64	0.369 **	0.314 *	0.480 ***	0.517 ***	0.251	0.245	0.028	-0.015
Female	0.105	0.069	0.047	0.123	0.294 *	0.255	0.103	0.172
Lower education	-0.431 **	-0.039	-0.412 **	-0.253	-0.338	-0.116	-0.416 **	-0.163
Higher education	0.211	0.115	0.205	0.121	-0.103	-0.148	0.330 **	0.201
Married/cohabitant	0.280 *	0.247	0.241	0.224	0.500 ***	0.452 **	0.209	0.245
Sofia city	-0.657 ***	-0.715 ***	-0.163	-0.210	-0.187	-0.186	-0.577 ***	-0.721 ***
Chronic disease	0.183	0.104	-0.054	-0.074	0.034	-0.017	0.050	0.008
Currently smoking	-0.085	-0.090	-0.102	-0.107	-0.276 *	-0.273 *	0.153	0.117
Reduced activity	0.553	0.544	0.689 **	0.732 **	0.272	0.230	0.385	0.496
Disabled	-0.055	-0.070	-0.041	-0.066	-0.117	-0.143	0.175	0.137
Teeth problems	-0.280 **	-0.241 *	-0.041	-0.010	-0.236	-0.218	-0.002	0.070
Poor health	-0.543	-0.519	0.028	0.066	-0.542	-0.501	-0.300	-0.274
Log earnings		-0.135		0.156		-0.119		0.087
Not affiliated		-1.139 ***		-0.388		-0.608 **		-0.070
Self-employed		0.092		0.105		-0.032		-0.355
Small firm		-0.401 **		-0.392 **		-0.506 **		-0.299 *
Informed about SS		-0.103		0.215		-0.556		0.107
Log per capita hh income		0.423 ***		0.051		0.140		0.450 ***
Constant	0.376 *	-0.961	-0.437 **	-1.571 *	1.325 ***	1.473	0.315	-2.624 ***
No. obs.	1310	1310	1310	1310	1310	1310	1310	1310
Log-likelihood	-826.4	-805.9	-889.0	-882.0	-570.7	-562.1	-840.0	-827.5
Pseudo R^2	0.027	0.052	0.020	0.027	0.021	0.036	0.018	0.033

Notes: * denotes asymptotic p-values between 5 and 10 percent. ** denotes asymptotic p-values between 1 and 5 percent. *** denotes asymptotic p-values below 1 percent.

Table 10: Distribution of non-affiliated workers according to their reasons for not affiliating.

	All	Women	Education		Self-employed	Small firm	SSC - good deal	SS optimist	Satisfied with SS affiliation
			Lower	Higher					
Voluntary	64.0	71.4	65.9	90.0	80.0	72.3	65.5	64.3	90.0
Benefits lower than costs	18.6	22.9	26.8	10.0	25.0	25.5	20.7	21.4	50.0
Salary too low	20.9	22.9	24.4	10.0	30.0	21.3	13.8	14.3	10.0
Already paid enough	10.5	11.4	7.3	40.0	10.0	12.8	13.8	7.1	10.0
Other sources of income	3.5	5.7	0.0	10.0	0.0	0.0	3.4	7.1	10.0
Self-secured	1.2	2.9	0.0	0.0	0.0	2.1	3.4	0.0	0.0
Bureaucracy	9.3	5.7	7.3	20.0	15.0	10.6	10.3	14.3	10.0
Involuntary	32.6	28.6	29.3	10.0	15.0	21.3	31.0	35.7	10.0
Lack of knowledge	3.5	0.0	4.9	0.0	5.0	6.4	3.4	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Tests for differences in the share of involuntary lack of affiliation (p-values) (y=dummy for involuntary lack of affiliation, x = column binary indicator)									
H_0: E(y|x = 0) > E(y|x = 1)	–	0.260	0.270	0.054	0.028	0.007	0.416	0.607	0.054
H_0: E(y|x = 0) < E(y|x = 1)	–	0.740	0.730	0.946	0.972	0.993	0.584	0.393	0.946

Appendix A: Comparison between BMTHS and EUROSTAT data

Age structure of the sample of individuals aged 15–64 and age structure from the EUROSTAT Labour Force Survey 2006 (EUROSTAT 2006).

	BMTHS			EUROSTAT 2006		
Age group	Men	Women	Total	Men	Women	Total
15–19	9.8	8.4	9.1	11.1	10.5	10.8
20–29	20.4	17.8	19.1	18.5	17.3	17.9
30–44	28.4	28.2	28.3	32.0	31.1	31.6
45–54	21.5	21.8	21.6	21.1	21.4	21.3
55–64	19.9	23.9	21.9	17.3	19.7	18.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Distribution of the sample aged 15–64 by gender, age group and schooling attainments.

	Men				Women				Total			
Age	I	II	III	Total	I	II	III	Total	I	II	III	Total
	BMTHS frequencies											
15–19	327	75	.	402	277	76	.	353	604	151	.	755
20–29	216	533	91	840	175	425	147	747	391	958	238	1587
30–44	208	753	206	1167	226	630	326	1182	434	1383	532	2349
45–54	180	525	178	883	224	463	227	914	404	988	405	1797
55–64	270	417	133	820	326	469	207	1002	596	886	340	1822
Total	1201	2303	608	4112	1228	2063	907	4198	2429	4366	1515	8310
	BMTHS percentages											
15–19	81.3	18.7	.	100.0	78.5	21.5	.	100.0	80.0	20.0	.	100.0
20–29	25.7	63.5	10.8	100.0	23.4	56.9	19.7	100.0	24.6	60.4	15.0	100.0
30–44	17.8	64.5	17.7	100.0	19.1	53.3	27.6	100.0	18.5	58.9	22.6	100.0
45–54	20.4	59.5	20.2	100.0	24.5	50.7	24.8	100.0	22.5	55.0	22.5	100.0
55–64	32.9	50.9	16.2	100.0	32.5	46.8	20.7	100.0	32.7	48.6	18.7	100.0
Total	29.2	56.0	14.8	100.0	29.3	49.1	21.6	100.0	29.2	52.5	18.2	100.0
	EUROSTAT Labour Force Survey 2006											
15–19	86.8	13.2	0.0	100.0	83.4	16.6	0.0	100.0	85.1	14.9	0.0	100.0
20–29	19.7	70.6	9.7	100.0	19.8	60.0	20.2	100.0	19.8	65.4	14.8	100.0
30–44	19.7	62.4	17.9	100.0	18.3	52.6	29.1	100.0	19.0	57.5	23.4	100.0
45–54	23.6	58.6	17.8	100.0	22.0	50.8	27.1	100.0	22.8	54.6	22.6	100.0
55-64	37.4	46.3	16.3	100.0	38.5	42.3	19.3	100.0	38.0	44.1	17.9	100.0
Total	31.0	54.9	14.1	100.0	30.2	47.7	22.1	100.0	30.6	51.3	18.2	100.0

Notes: I = primary. II = secondary. III = tertiary.

Appendix B: The BMTHS module on subjective beliefs

Section 14: SUBJECTIVE BELIEFS AND PERCEPTIONS
[ASK HOUSEHOLD HEAD]

RECORD THE ID CODE FROM THE ROSTER OF THE INDIVIDUAL PROVIDING INFORMATION	1. The following statements are related to Social Security Contributions (SSC). Please tell us how much you agree or disagree with each statement. 1 = Strongly agree 2= Agree 3 = Neither agree nor disagree 4 = Disagree 5 = Strongly disagree				2. Suppose there are two possible pension schemes. In the first one, current contributions are used to finance pensions for current retirees, while in the second one contributions add to your own pension. Which would you prefer? 1 = Current contributors paying for current pensioners 2= Contributions accumulating to own pension	3. Consider the insurance programs provided by the public social security administration. Suppose that you can only increase the benefits provided by one program but, for budgetary reasons, this increase must be compensated by a decrease in all other benefits. Which of the following benefits would you like to increase, knowing that one or some of the others would decrease READ OPTIONS TO RESPONDENT 1 = Old age pension 2 = Survivors pension 3 = Disability pension 4 = Sickness and maternity benefits 5 = Work injury benefits 6 = Unemployment benefits 7 = None	4. In order to be eligible for the public old age pension, what do you think is the minimum age for a person of your same gender? INTERVIEWERS WRITE DOWN BOTH YEARS AND MONTHS IF PROVIDED		5. Think of a person who contributed to social security through all his life and who reached the minimum age requirement. What do you think his old age pension would be as a percentage of income?
	Jobs that require SSC are more stable	Paying SSC today is a good deal for me because the return is guaranteed	Paying SSC provides help for poorer or older people	If I do not pay SSCI may end up not saving enough			YEARS	MONTHS	PERCENTAGE

6. What do you think your old age pension will be as a percentage of your last income?	7. In your opinion, over the next 10 years the public social security system will be more generous, less generous, or unchanged?	8. We have some questions about how likely you think various events might be. When I ask a question, I'd like you to give me a number from 0 (absolutely no chance) to 100 (absolutely certain). Let's try an example together and start with the weather. What do you think the chances are that it will be sunny tomorrow? You can say any number from 0 to 100. For example "90" would be a 90 percent change of sunny weather, or sunny weather is very likely. Now, what do you think the chances are that you will be working after you reach age ...			9. What do you think the chances are (any number from 0 to 100) that each of the following events could happen to you within the next 12 months?		
	1 =More generous 2 = Unchanged 3 = Less generous	Age 50	Age 60	Age 70	Serious illness, causing physical incapacity/unable to work for a long time)	Serious accident (causing physical incapacity/unable to work for a long time)	Lose job or be forced to close your business
PERCENTAGE							

10. What do you think the chances are (any number from 0 to 100) that you will live to be…?			11. Imagine you won the first prize of a national lottery, which is worth 1000 Leva. The lottery administration is very reliable, so that you would get the money for sure, but only one year from now (suppose there is no inflation). Then a friend of yours asks you to sell him the ticket, for which he would pay immediately. What is the minimum price for which you would sell the ticket?	12. Suppose now that the prize you won is not from a national lottery, but from one which is less reliable, so that there is only a 50% chance to get the money. However, in the event that you get paid you would be paid tomorrow. Your friend asks you to sell him the ticket today. What is the minimum price for which you would sell the ticket?	13. In your opinion, what is the financial situation of your household?	14. On a scale from 1 to 10 where 1 means the least satisfied and 10 means the most satisfied, how satisfied are you with the financial situation of your household?
Age 70	Age 80	Age 90	LEVA	LEVA	1 = Very poor 2 = Poor 3 = Good 4 = Very good 5 = Rich	CODE 1 TO 10

1					10

LEAST SATISFIED

MOST SATISFIED

15. During the last 12 months, did you have any difficulties covering household expenses for…? (1 = Had no expenses; 2 = Always had difficulties; 3 = Sometimes had difficulties; 4 = No)							16. How would you consider the current level of food consumption in your household? (1 = Less than enough; 2 = Enough; 3 = More than enough; 4 = Don't know)	17. What are your expectations for your household financial situation in the next 12 months? (1 = Improve a lot; 2 = Improve somewhat; 3 = Remain the same; 4 = Somewhat deteriorate; 5 = Deteriorate a lot; 6 = Don't know)	18. What is your household's current monthly income?	19. In your opinion, what is the monthly income a household in Bulgaria would have to have in order to live…?		
Food	New clothes & footwear	Electricity	Heating	Health	Education	Repayment of loans, credits			LEVA	Very well	Adequately	Poor
									LEVA	LEVA	LEVA	LEVA

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Summary Findings

In this paper, we analyze the relationship between personal opinions about the social security system and levels of informal employment using data from a recent household survey carried out in Bulgaria. We compare different indicators of job informality, focusing on the lack of social security affiliation as the main indicator. Our results suggest that low value is attached to social security affiliation and that knowledge of the social security system is very limited. As a consequence, many workers seem to choose informal jobs because they think that the benefits from being affiliated with the social security system are too low compared with the costs. On the other hand, being affiliated does not seem to matter in terms of overall job satisfaction.

HUMAN DEVELOPMENT NETWORK

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