

HARVARD UNIVERSITY

\*

AGENCY FOR ECONOMIC ANALYSIS AND FORECASTING

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INSTITUTE FOR MARKET ECONOMICS

# **THE SHADOW ECONOMY IN BULGARIA**

**Cornell University**

*Steven Kyle Ph.D.*

**Harvard University**

*Andrew Warner Ph.D.*

**Agency for Economic Analysis and Forecasting**

*Lubomir Dimitrov*

*Radoslav Krustev*

**Institute for Market Economics**

*Svetlana Alexandrova Ph.D.*

*Krassen Stanchev Ph.D.*

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## Executive Summary

*“There cannot be any question that the underground economy is a real phenomenon with important implications that deserve attention and study.”*

*Vito Tanzi*

### Measuring the Shadow Economy in Bulgaria<sup>1</sup>

GDP accounts are customarily compiled in several alternative ways, each focusing on aggregating transactions in different ways, but all (at least in theory) adding to the same total. Two of the most common aggregations are those which are focused on expenditure (based on the standard national income accounting identity of  $C + I + G + X - M$ ) and those based on revenues, or incomes. The two methods should, of course, add up to the same number since they measure different sides of the same activity: what money people receive on one side, and what they do with it on the other.

However, Bulgarian GDP statistics using revenue as the approach give growth rates 2 percentage points lower than the expenditure approach for 1998 and 1999. In other words, data based on what people actually spend show growth rates of 5.4% (1998) and 4.4% (1999), while official figures based on revenues are 3.5% and 2.4%, respectively. This is evidence that there are underreported incomes. It is of interest not only for statistical but also for economic policy purposes to have more detailed information about the discrepancies between official statistics and activities not covered by the official statistical system. It is particularly interesting to know the size and structure of unreported, hidden economic activities, or what has come to be called the “shadow economy.” Currently published estimates of the size of the shadow economy vary from 20 to 25% of officially measured GDP, implying that there is a far larger issue than that implied by the differential growth rates cited above.

The objective of this study is to estimate the size of the informal sector, its structure, the incentives for its development and its effect on the economic growth and the competitiveness of the Bulgarian economy. Two different methods were used to get results that are compatible for international comparisons; also, alternative calculations allow a range of estimates which can help to balance the methodological weaknesses of the individual approaches: the modified (indirect) Physical Input Approach based on energy/electricity consumption data, and the (direct) Microeconomic Approach based on firm level survey data.

The survey covers five hundred thirty firms from the following sectors: wholesale and retail trade, transport, construction, mechanical and engineering, food and beverages production, chemicals, textile and clothing production, tourism and agriculture. These sectors account for 56% of total GDP, and while limited resources necessitated a smaller sample than

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would be desired under conditions of unlimited funding, some results are quite interesting and indicate the need for further investigation.

The study not only provided estimates of the size of the informal economy, but also allowed a basis for analyzing some of the most important aspects of its underlying structure and the incentives for its growth. Of particular interest are effects of the tax and social insurance system, effects of labor contracting and the wage level as well as the effects of administrative costs.

### **Results of the Modified Physical Input Approach**

The basic rationale of the Physical Input Approach in measuring the size of the shadow economy is that energy consumption (electricity, plus other resources) in a given country is proportional to total economic activity and any change in energy consumption which does not correspond to changes in the measured total activity level of the country indicates a change in the size of the shadow economy. These results provide useful indicators of changes in the shadow economy over time, but cannot be used to quantify the absolute size of the shadow economy since this depends on an initial estimate of the size of the shadow economy in the base year. This estimate is necessarily arbitrary to some degree in the absence of specific micro-level data allowing definition of an explicit relationship between energy use and economic activity. Results show that the Bulgarian shadow economy in 1998 declined below the estimated base year (1989) proportion of 30%. According to our calculations, the proportion of the shadow economy in 1998 GDP in Bulgaria was 22%. The largest proportions were observed in 1990 (32.2%) and 1996 (34.4%), declining thereafter.

### **Results of the Microeconomic Approach**

The survey provided a description of some of the factors important in promoting shadow economy activities as well as two different direct indicators of its size: one based on tax evasion and one on unreported wages.

The Microeconomic Approach takes into consideration the business environment insofar as it is the result of legislation, government action and institutional gaps and the response of the individual firms to these factors. The general economic environment has a serious impact on economic activities, particularly the tax and social insurance system and employment and wage conditions.

The survey shows that most companies do not use bank credit for initial investments as is the practice in developed market economies. Personal savings comprise 65% of initial investments, bank credit accounts for only 18%, and financial resources available through international programs account for less than 3%.

Almost 70% of the enterprises prefer paying for input and other costs in cash. Nineteen percent cite the greater freedom that they have with this form of payment, and 14% of the sample cite low quality of banking services and the higher costs of payments through banks. However it is clear that the high percentage of cash payments facilitates non-reporting of economic

activities. This is supported by the observation that 66% of the companies work without invoices. The costs saved by following this practice reach approximately 24% of turnover.

One of the key issues cited by respondents for insufficient business growth in Bulgaria is license and permit procedures. Business attitudes towards licensing and permit requirements are extremely negative. However, only 1.5% of the sample answer that they operate without legal licenses, showing that the risk of penalty is high. The average cost (state fees plus consultants' and lawyers' fees) of obtaining a license is estimated at 14.5% of a company's monthly turnover.

In summary, the survey shows a marked preference of firms for irregular practices which facilitate tax evasion, while the high proportion of companies that have a license indicates that, though many companies operate in the officially reported economy at least to some extent, it is obvious that they avoid reporting some proportion of their activities. The following two sections describe preliminary estimates of the extent to which this actually occurs.

### **Evidence from tax and social insurance payments**

The taxes that are most frequently evaded are the value added tax (VAT) and social security payments. Payroll taxes and the personal income taxes are also near the top of the list of the most frequently evaded taxes. The survey shows that almost 17% of corporate tax is evaded by purchasing fictitious invoices. Total tax evasion can be estimated at 33% of GDP according to sample-based calculations.

### **Evidence from labor contracting and wages**

Between 13% and 15% of those sampled reported hiring people without a contract during the 1997-99 period, as well as during their first accounting year. This practice allows firms to avoid the cost of pension and health care taxes on their officially contracted employees. There is a tendency for growth in the total number of those employed without contract over the 1997-99 period. In 1999, the total number of employed fell by over 14%, while at the same time the number of employed without contract increased by 22%. This demonstrates a clear tendency for substitution in employment to avoid contracts. The results show that approximately 3% of employed people (ca. 80 000) are not legally registered. Therefore, the actual unemployment rate for 1999 seems to be lower than the National Statistical Institute figures indicate.

The agriculture and the trade sectors show the largest proportion of workers without contracts, while the service sector shows the smallest (0.5%). The survey shows that the salaries actually paid were higher than reported wages (average 230 BGN) by 10% to 50%. Most firms hide around 34 -35% of their labor costs. The high level of avoidance is a testament to the very high total tax burden in reported wages. Both employers and workers have an interest in avoiding these payments.

### **Conclusions**

This study has shown that though the size of the shadow economy has declined from its peaks in the mid 1990's, it remains a sizable proportion of the Bulgarian economy. While in many ways shadow activities have the potential to be dynamic growth sectors, bringing them officially into the economy would help spread the burden of social programs more broadly. However, it is clear that the current level of taxation and administrative costs is regarded as so high that an attempt to impose these taxes on all would result in the elimination of many shadow activities rather than bringing them into the official economy. Accordingly, one clear lesson is that improved tax collection must be coupled with reduced taxes and deregulation. The size of the shadow economy is also of interest to policy-makers seeking to promote growth. Our results show that a substantial portion of the response to policy initiatives is effectively hidden from the official view. Thus, an ability to correctly estimate the size and structure of the shadow economy will not only provide more accurate statistics but can help improve growth policies as well.

# I. INTRODUCTION - DEFINITION OF SHADOW ECONOMY (SE) AND SIGNIFICANCE OF THE STUDY

## ESTIMATION OF THE SHADOW ECONOMY IN BULGARIA

It has been reported in the popular press that statisticians assume in their analyses that approximately 9 trillion USD of world-wide output is not reported,<sup>2</sup> largely due to the existence of the shadow economy<sup>3</sup>. Friedrich Schneider<sup>4</sup> concludes that shadow activity is nearly 15% of the officially reported GDP. His assumptions are the result of research carried out in 76 developed and emerging economies. This shows that the informal sector can be as important as the official economy, especially when it accompanies the economic development of the transition countries. According to an estimate made by Johnson, Kaufman and Zodia-Lobaton<sup>5</sup>, the shadow economy in the transition countries varies between 7 - 43% for the period 1989-1993.

There are many causes for the existence of the shadow economy, but some of the most important can be readily identified. These are high tax burdens, weak banking systems, business regulations and legislation, inefficiency of government institutions and high unemployment rates. The shadow economy tends to be greater in the developing and transition countries due to more corruption and lower incomes.

To date there is no precise definition of the shadow economy. Friedrich Schneider and Dominic Enste define it as a multitude of activities that are not reported by the official statistics. According to Feige<sup>6</sup>, the development of the shadow economy is due to regulations and rules imposed on business by the state. De Sato<sup>7</sup> has also contributed to the explanation of the shadow economy phenomenon. He holds that the quality of regulations as well as their enforcement are of great importance for the development of the shadow economy and emphasizes the change in the attitude of the economic agents towards the institutions and the legislation, especially in the transition countries.

For the last three years the development of the Bulgarian economy has been characterized by macroeconomic stability and financial soundness. At the same time, the state has extended control over business activities by increasing the number of legal regulations concerning licensing, permits and registration. Current licensing and registration procedures

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<sup>2</sup> The Shadow Economy, *The Economist*, August 28, 1999, Vol. 352.

<sup>3</sup> The IMF has estimated that the global GDP in 1998 was 39 trillion USD, and almost 9 trillion USD ( $9 \times 10^{12}$ ) of this activity, equivalent approximately to the American output, went undetected, *ibid*.

<sup>4</sup> Schneider, Friederich and Dominic Enste, *Shadow Economies Around the World – Size, Causes, and Consequences*, Jena, 1999.

<sup>5</sup> *Studies of Illegal and Unreported Activity* (Michigan: WE Institute for Employment Research, 1996) and *Journal of International Affairs*, Vol. 53.

<sup>6</sup> See: Philip Smith, *Assessing the Size of the Underground Economy. The Canadian Statistical Perspectives*, *Canadian Economic Observer*, Catalogue number 11- 010, 18 March 1994.

<sup>7</sup> See: de Sato *The Other Path*, NY: Harper & Row, 1989. Sato's formulation is based on the cases formulated in the context of Peru's economic development (that Peru is governed by a set of laws that are relatively less efficient than those that guide the informal sector).

impede business activity and create favorable conditions for corruption in state and local administration. Surveys of the Institute for Market Economy show that business regulation and the constantly changing number of regulations are important reasons for firms to prefer the informal sector of the economy<sup>8</sup>.

In theory and practice the most common methods for measuring the shadow economy are the following:

The direct approach<sup>9</sup> is based on a direct inquiry with the firm managers, state and local administration representatives by means of interviews and questionnaires. An advantage of this method is the variety of the information collected on the structure of the shadow economy, and the incentives that lead to it. The outcome of such research depends on the way the questionnaire is formulated and the willingness of the businessmen to give truthful answers. The disadvantage of the approach is the degree of reliability of the information given the illegal nature of many shadow activities. This presents difficulties for evaluating the actual size of the shadow economy. For this reason, the direct approach is not much used in practice.

Commonly used indirect methods for evaluation are based on differences between national expenditures and revenues, an assessment of the labor market analyzing the differences among the officially registered employment, the unemployment rate and the number of people who are actually employed within the economy.<sup>10</sup>

Another indirect method is the currency demand approach<sup>11</sup> used in the evaluation of the informal economy in OECD countries by Schneider, Johnson, and Kaufman, 1998. In the past few years an assessment of the shadow economy through energy consumption costs has been applied by Kaufman and Kaliberda.<sup>12</sup> This method is appropriate for comparative analyses. The physical (electricity) approach has been applied by Johnson and Lacko to the transition countries for the period 1989-1995. According to this method, the size of the shadow economy in GDP for Bulgaria was 26.1% (1989-1990), 32.7% (1990-1993) and 35% (1994-1995). Bulgaria is one of the countries in transition where the size of the shadow economy shows an upward trend.

The objective of the analysis reported in this paper is to determine the proportion of the informal sector in the economy, its structure, the incentives for its development and the effect on the economic growth and the competitiveness of the economy. In this research, the shadow economy is measured both by the energy consumption and the direct approach by sector. Firms from the following sectors of the economy are included: wholesale and retail trade, transport, construction, mechanical and engineering, food and beverages, chemicals, textiles and clothing, tourism and agriculture.

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<sup>8</sup> See: In Search for Growth: Policies and Lessons from Bulgarian Transition, IME Newsletter, Vol. 5, No 11-12, 1999.

<sup>9</sup> The direct approach is used by Isachsen Krovland and Storm (1982) for the determination of the SE in Norway and Denmark.

<sup>10</sup> See Friedrich Schneider and Domonic Este, "Shadow Economies Around the World - Size, Causes, and Consequences, Max-Planck-Institute for Research into Economic Systems, 1999.

<sup>11</sup> The currency demand approach has been used by Cagan (1958) and further developed by Vito Tanzi (1980-1983).

<sup>12</sup> See: Kaufman and Kaliberda, The Underground Economy in Poland.

## II. GENERAL METHODS FOR EVALUATING THE SIZE AND EFFECTS OF THE SHADOW ECONOMY

The same reasons that justify our interest in the GDP and the whole economy of a country make it necessary to determine a country's shadow economy. The latter term, while intuitively clear, has been difficult to define. Philip Smith<sup>13</sup> has referred to the unofficial economy as "market-based production of goods and services, whether legal or illegal, that escapes detection in the official reports of GDP." However, this description is almost as broad as the term shadow economy. An alternative possibility is to define the concept in terms of its causes or indicators - a more detailed classification has therefore been given by Schneider and Enste<sup>14</sup> who divide underground economic activities into several categories by three factors: monetary and non-monetary transactions, illegal activities and legal activities. Legal activities are further divided into those associated with tax evasion or tax avoidance.<sup>15</sup> A good way to generalize these definitions would be to think of shadow economic activities as those which provide a way to avoid taxes.

### SIGNIFICANCE OF THE STUDY

On its way to joining the EU, Bulgaria has to show strong and sustainable GDP growth to catch up with the lowest income economies in the Union. If research on shadow activities proves that the proportion of the shadow economy is high in relation to the official GDP, this finding can reveal a serious resource for economic growth and the number of years needed for convergence to the EU average would be drastically reduced. Government measures can be targeted toward improving the business environment and removing administrative barriers to small and medium enterprises (SMEs). Reducing the tax burden, which is usually seen as the main motive for being in the shadow economy, can decrease the costs for firms to stay in the shadow sector. This will increase the tax base significantly and improve the tax collection ratio. Though these are benefits and costs to informal operations, on the macro level the total effect of the SE in Bulgaria should be negative. This is because companies cannot use various public and private services. The most obvious example is the tendency to avoid the bank services. This results in reduced volume of sales, especially for exports. While the shadow sector may be quite flexible on local markets, it is less competitive on external markets. The negative impact of the SE on national competitiveness is the main disadvantage for a small economy like Bulgaria, which should have an export-oriented policy and a moving private sector, even if it is official and legally operating.

Various methods have been created to estimate the size of the shadow economy of a country.<sup>16</sup> Among the most widely used have been the currency demand approach, the physical input (electricity) approach and different survey (direct) approaches. When transactions are made with cash payments, an increase in the demand for currency would be translated into an increase in the shadow economy.

## III. ALTERNATIVE EVALUATION: THE PHYSICAL INPUT APPROACH

Among those who have previously used this approach are Kaufmann and Kaliberda.<sup>17</sup> We also try to measure the total economic activity level (TA) in Bulgaria by assuming that the

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<sup>13</sup> Philip Smith (1994): "Assessing the size of the Underground Economy: the Canadian Statistical Perspective", Canadian Economic Observer, Catalogue No.: 11-010, 3.16-33, at 3.18.

<sup>14</sup> Friedrich Schneider and Dominic Enste (1999): "Shadow Economies Around the World—Size, Causes, and Consequences", *Lectiones Jenenses*, Heft 20, 9.

<sup>15</sup> Schneider and Enste, 9.

<sup>16</sup> For a detailed description of each method along with its shortcomings and applications in different countries, see Schneider and Enste, 1999.

<sup>17</sup> Daniel Kaufmann and Aleksander Kaliberda (1996): "Integrating the unofficial economy into the dynamics of post socialist economies: A framework of analyses and evidence," Washington, D.C., The World Bank, Policy research working paper, 1691.

electricity/energy consumption in the country is proportional to the total activity (TA). Thus, any change in energy consumption, which is not matched by a corresponding change in the total activity level in the country, should reflect a change in its shadow economy (SE) level. In other words, the growth in the ratio of energy to total activity is an indicator of the growth in the parallel markets of a country. We can then establish a formula for the level of the shadow economy as a percentage of the GDP which we denote by SE.

Let us assume a constant proportion of energy to total activity,

**Equation 1**

$$TA_n = E_n * \frac{TA_{base}}{E_{base}}$$

where subscripts “n” and “base” stand for the base year and the year in question, and E denotes Energy (or Electricity) consumption. We also have

**Equation 2**

$$SE = \frac{TA - Y}{Y} = \frac{TA}{Y} - 1$$

where Y is the country’s GDP, and let  $SE_{base} = x$  be the fraction of shadow economy of GDP in the base year. Then

**Equation 3**

$$TA_{base} = Y_{base} (1 + x)$$

$$TA_n = E_n * \frac{Y_{base} (1 + x)}{E_{base}} = (1 + x) * \frac{Y_{base} * E_n}{E_{base}}$$

So for the shadow economy in year n we have:

**Equation 4**

$$SE_n = \frac{TA_n}{Y_n} - 1$$

$$SE_n = (1 + x) * \left( \frac{Y_{base}}{E_{base}} / \frac{Y_n}{E_n} \right) - 1$$

From the formula we see that, *ceteris paribus*, the shadow economy is determined both by the level of the shadow economy in the base year and the ratios of GDP to energy consumption in the base and given years. Note that here the term base year simply refers to the starting year of our calculations, and once we know the shadow economy of a given year, and the relevant statistics for energy consumption and GDP, we can recursively find the shadow economy levels for the subsequent years. Unfortunately, this convenience of easy

calculations also underlies the shortcoming of the method. We can never find an absolute value for the shadow economy size without using some exogenous estimate for this size in the base year.

If we are only interested in how a change in the shadow economy in the base year alters the shadow economy in the current year (say we want to see how robust our calculations are when the level of shadow economy in the base year is allowed to vary within a range of error), then the formula for change follows from above by subtraction:

**Equation 5**

$$\Delta SE_n = IX * \left( \frac{Y_{base} / E_{base}}{Y_n / E_n} \right)$$

We now see that, holding everything else constant, the change in the SE in any given year is proportional to the change in SE in the base year. The coefficient of proportionality, however, is not necessarily 1 -- it depends on the ratios of GDP to energy consumption in the base as well as the current year.

As we mentioned above, E in the formulae could either refer to energy or electricity consumption. The standard approach considers electricity consumption in the economy as a whole. In the current paper, we try to make the measurement of shadow activities more precise by looking at total energy consumption as well; also we deviate from the standard approach in that we compute the shadow economy size separately in each different sector. We believe that the latter is the best way to capture the structural changes that have been taking place extensively in all transition economies since the change of regime.

We thus compare four modifications of the Physical Input approach: by looking at electricity consumption separately by sector, and as a whole making a comparison with the standard approach and existing results; we then compute equivalent values by replacing electricity with total energy consumption. The latter should reflect the substitution effect that takes place among the energy sources when energy prices change relative to the corresponding CPI and inflation rates.

#### **ELECTRICITY - TOTAL CONSUMPTION AND CONSUMPTION BY SECTOR**

The advantage of the electricity approach is the accuracy of the data for electricity consumption. The standard method considers only total electricity consumption in the economy. However, when significant structural changes take place, economic production can shift from energy intensive industrial sectors to services or agriculture, which are characterized by low or zero electricity consumption. In the case of Bulgaria this process cannot be ignored.

Assuming a constant GDP/electricity ratio with 1989 as a base year, we test the assessment of the shadow economy with the standard approach and structural adjustments. We use real GDP data that we compute based on the Bulgarian GDP in 1989 and indexes of GDP growth for the years 1989-1998. Assuming a "base" level X of the shadow economy in 1989, we use the available data for GDP and electricity consumption to express in terms of the levels of the shadow economy in the years 1990-1998. For example, since the GDP levels for

1989 and 1990 are respectively 39,579 and 35,977, while the electricity consumption levels are 38,816 and 47,528 respectively, using formula (1) the shadow economy in 1990 is

**Equation 6**

$$SE_{1990} = (1 + x) * \left( \frac{Y_{base}}{E_{base}} / \frac{Y_{1990}}{E_{1990}} \right) - 1$$

$$SE_{1990} = (1 + x) * \left( \frac{39,579}{38,816} / \frac{35,977}{47,528} \right) - 1 = (1 + x) * 1.347 - 1$$

Similarly, we proceed to find the levels for the consequent years. Finally, we need an estimate for the shadow economy in the base year, x. Since it is difficult to give a precise value for that, we consider a range of possible values and show that no matter what the starting value is, the trends in the shadow economy growth are the same.<sup>18</sup>

To adjust the evaluation for structural changes, we divide the GDP into two sectors: industry and other. We take the ratio of value added tax to electricity consumption for each sector and calculate the shadow economy by sector. In Table 1, the data for the sector approach is calculated based on a uniform distribution of the shadow economy by sector in the base year. Figure 1 shows how these methods differ for a given base year level of the SE. Below we test how asymmetric distribution by sector can affect final results.

**Table 1**

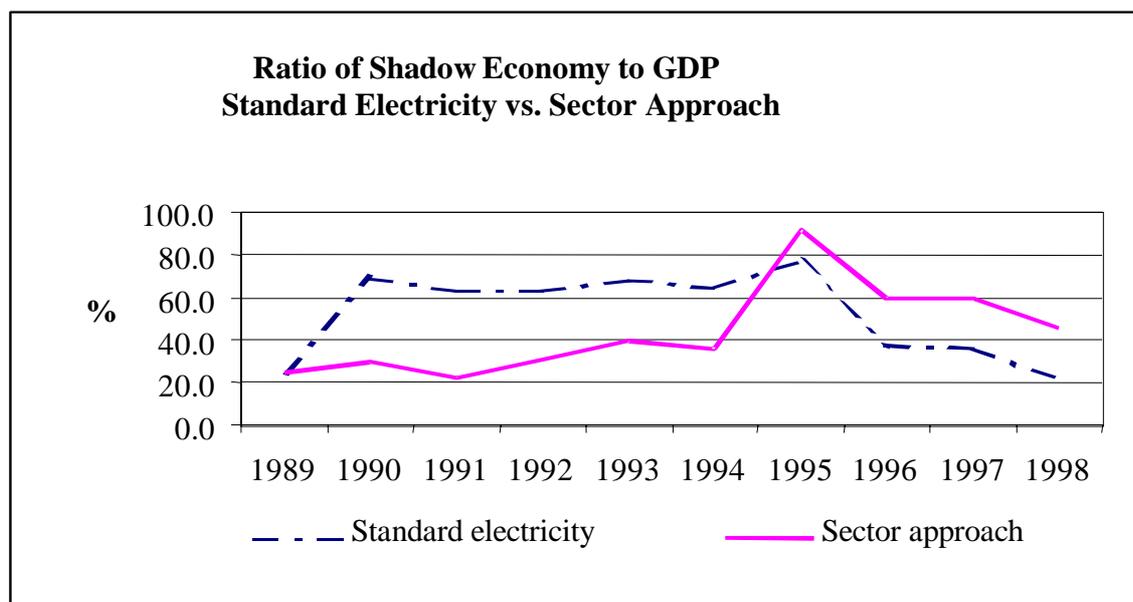
**Electricity Approach, Proportion of Shadow Economics in GDP under Alternative Base Year Estimates of SE/GDP**

	Standard	Sector	Standard	Sector	Standard	Sector
1989	20.0	20.0	25.0	25.0	30.0	30.0
1990	61.9	24.5	68.7	29.6	75.4	34.8
1991	56.2	16.6	62.7	21.2	69.2	25.9
1992	56.1	23.5	62.6	28.1	69.1	32.7
1993	61.4	30.9	68.1	35.6	74.8	40.3
1994	57.3	28.1	63.8	32.7	70.4	37.4
1995	70.1	75.1	77.2	81.5	84.3	88.0
1996	31.8	49.7	37.3	55.1	42.8	60.5
1997	30.4	48.5	35.8	53.9	41.2	59.2
1998	16.6	36.0	21.5	40.8	26.4	45.6

When calculating the relative proportion of the shadow economy, the final results are strongly dependent on the assessment for the shadow economy in the base year. Such an assessment can be quite misleading, but regardless of the initial share, the dynamic trends are not affected. The graph below shows estimates for different scenarios for the base year.

**Figure 1**

<sup>18</sup> See appendix.



The advantages of the sector approach are that we have additional figures for the shadow economy by sector, and we can distribute the concentration of the informal activity by sector. However, we decided to break the GDP figures into only two sectors: industry and others (including services and agriculture). The data for agriculture and services is reliable on an aggregated level, but on a disaggregated level is strongly biased by the form of ownership. In 1989, most agricultural production was concentrated in the state owned co-operative farms, and the consumption of electricity was adequately measured for the sector. With the land restitution, these state farms were liquidated and production was transferred to small private farms. In most cases these are individual households and electricity consumption here is counted as household consumption. This is also true of most of the micro firms operating in the service sector. The relative proportion of the shadow economy to GDP can also vary with different scenarios for the distribution of shadow economy by sector in the base year. In Table 2 and Figure 2 we show calculations for different sector distribution of the relative proportions. However, intuition suggests that in the case of Bulgaria, the proportion of shadow activities in the industrial sector is much lower than it is in the service sector. The reasons are both methodological failures that do not allow the statistical institutions to capture the total activity in the service sector and the flexibility of the service sector to underreport revenues for avoidance purposes. It is also important to note that in the base year 1989, the methods used for calculating GDP did not accurately cover many of the services, as the government supplied most of these services at zero cost to the consumer.

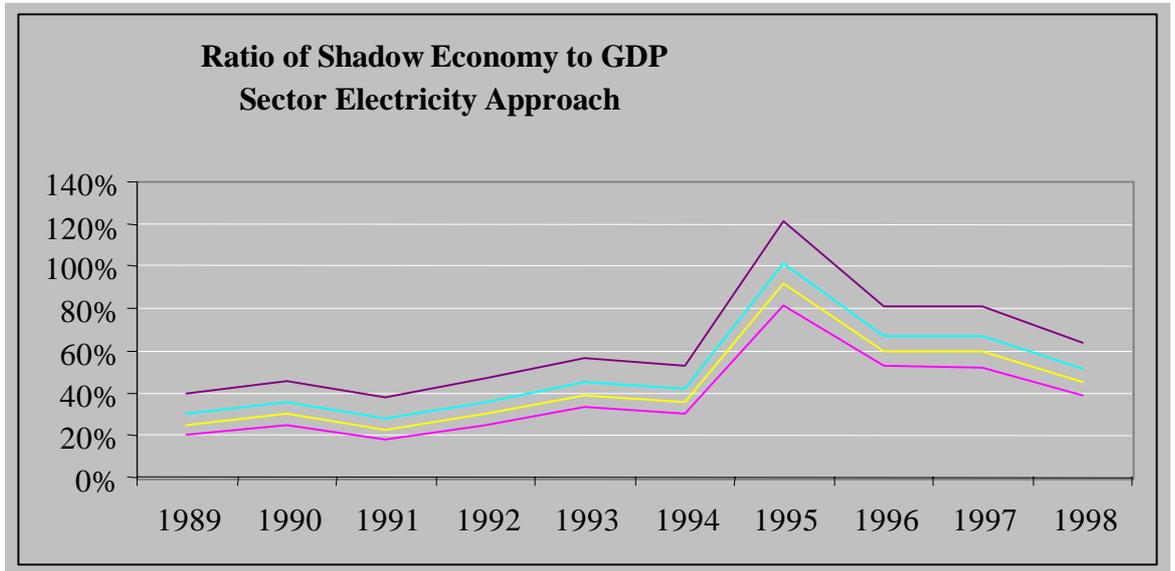
**Table 2**

**Sector Approach, SE/GVA (%), Sector Approach  
with Different Assumptions for the Distribution of SE by sector in Base Year**

	<b>Total (uniform)</b>	Industry	Others	<b>Total</b>	Industry	Others	<b>Total</b>
1989	<b>25.0</b>	10.0	46.9	<b>25.0</b>	30.0	17.7	<b>25.0</b>
1990	<b>29.6</b>	15.8	49.2	<b>30.2</b>	36.8	19.6	<b>29.5</b>
1991	<b>21.2</b>	13.5	35.6	<b>22.7</b>	34.2	8.7	<b>20.8</b>
1992	<b>28.1</b>	6.2	73.5	<b>30.5</b>	25.5	39.0	<b>27.3</b>
1993	<b>35.6</b>	6.0	106.2	<b>39.3</b>	25.3	65.3	<b>34.4</b>
1994	<b>32.7</b>	2.9	102.5	<b>36.0</b>	21.6	62.4	<b>31.7</b>
1995	<b>81.5</b>	19.8	236.0	<b>91.6</b>	41.6	169.3	<b>78.2</b>
1996	<b>55.1</b>	27.0	134.5	<b>59.8</b>	50.1	88.0	<b>53.6</b>
1997	<b>53.9</b>	23.7	134.1	<b>59.6</b>	46.2	87.7	<b>52.0</b>

1998	<b>40.8</b>	15.1	107.6	<b>45.2</b>	36.1	66.4	<b>39.3</b>
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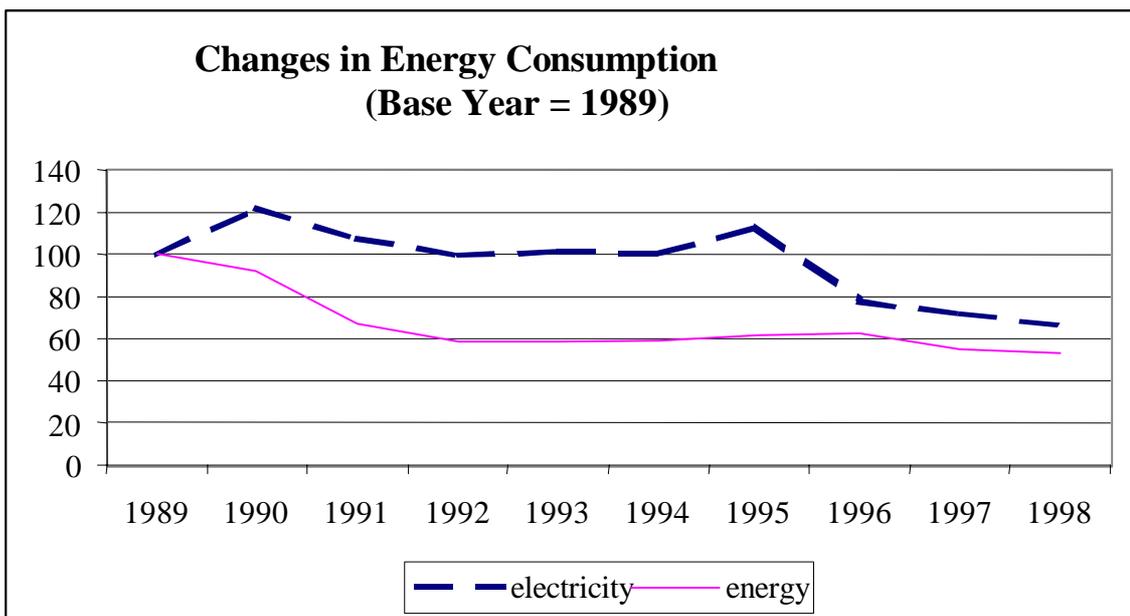
Figure 2



**ENERGY APPROACH**

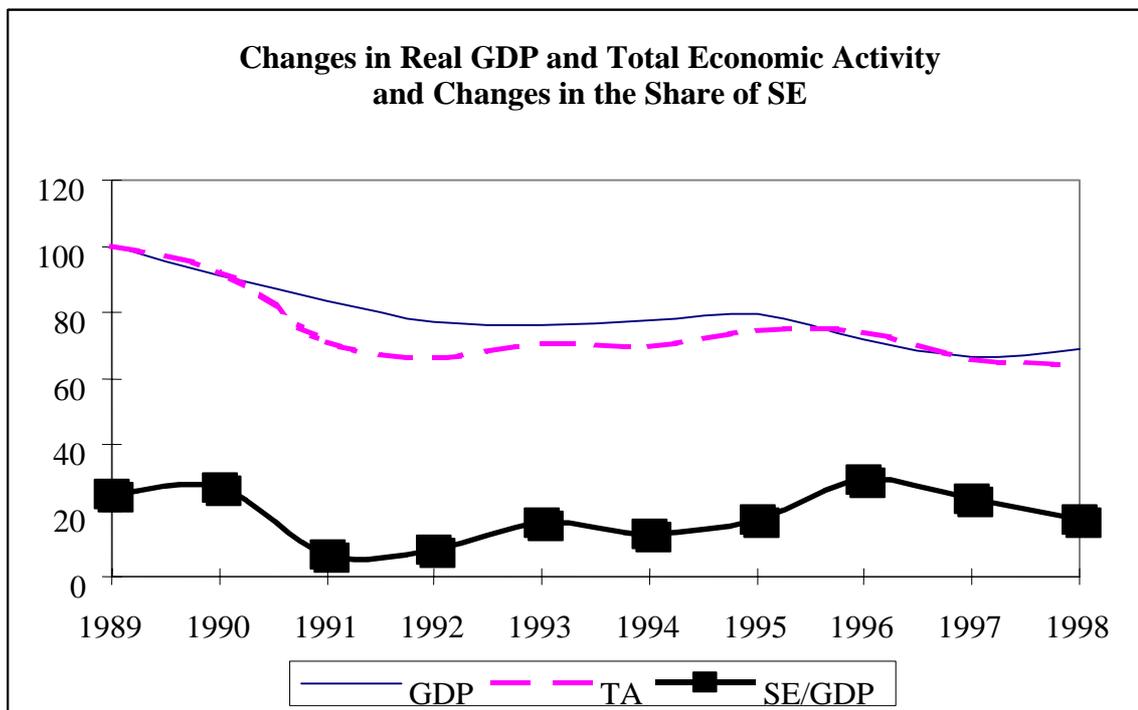
The electricity approach is based on the empirical assumption that the ratio of GDP to electricity consumption is constant. In the long-run, changes in relative prices of energy resources or other supply side effects can force the consumers to substitute different sources of energy. (See Figure 3) This substitution effect can seriously affect the assessment of the shadow economy.

Figure 3



To calculate a better estimate of the shadow economy, we compare the consumption of total energy resources including electricity, coal, fuel, gas, heating, calculated terajoules and changes in electricity consumption. The decrease in energy consumption is even greater than the drop in electricity. This means that some of the consumers have shifted from other sources of energy to electricity leading to changes in the ratio of GDP to electricity and overestimation of the shadow activity. Accordingly, to improve the quality of the physical input approach, we substituted total energy consumption for electricity in the calculations outlined above. This method is a reliable tool to remove any substitution effects that might distort the estimates. A slight concern in using the total energy approach is the probability of statistical errors in the energy consumption data and the chance that hidden consumption may exist for some sources such as kerosene, diesel or petrol.

Figure 4



In order to calculate the actual sizes of the Bulgarian shadow economy in the years 1990-1998, we need to know the level for the base year 1989 (see formula (1) above). There exist estimates in the economic literature, yet given the inaccurate and contradictory results those yield, we allow for a range of possible values of the shadow economy level in 1989. Thus, as in the Electricity approach above, we can get a sense of what ranges the shadow economy levels move in and see that the trends in these levels are unaffected.

Figure 5

**Shadow Economy Levels for the Years 1989-1990 in Bulgaria,  
Based on Five Different Values for the Shadow Economy in 1989  
(10, 20, 30, 40 and 50% respectively)**

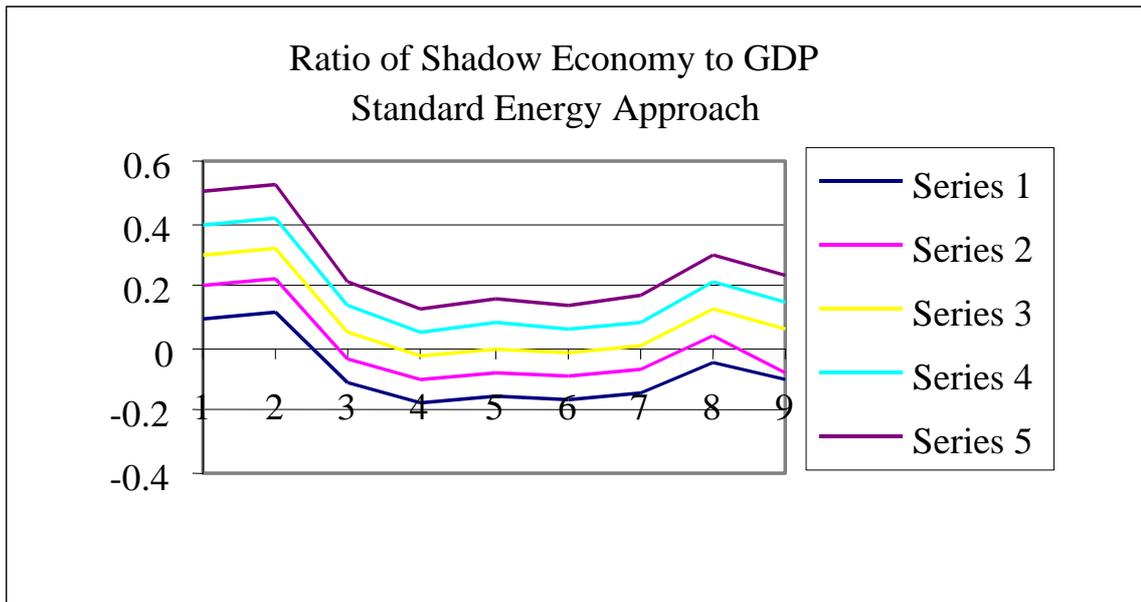
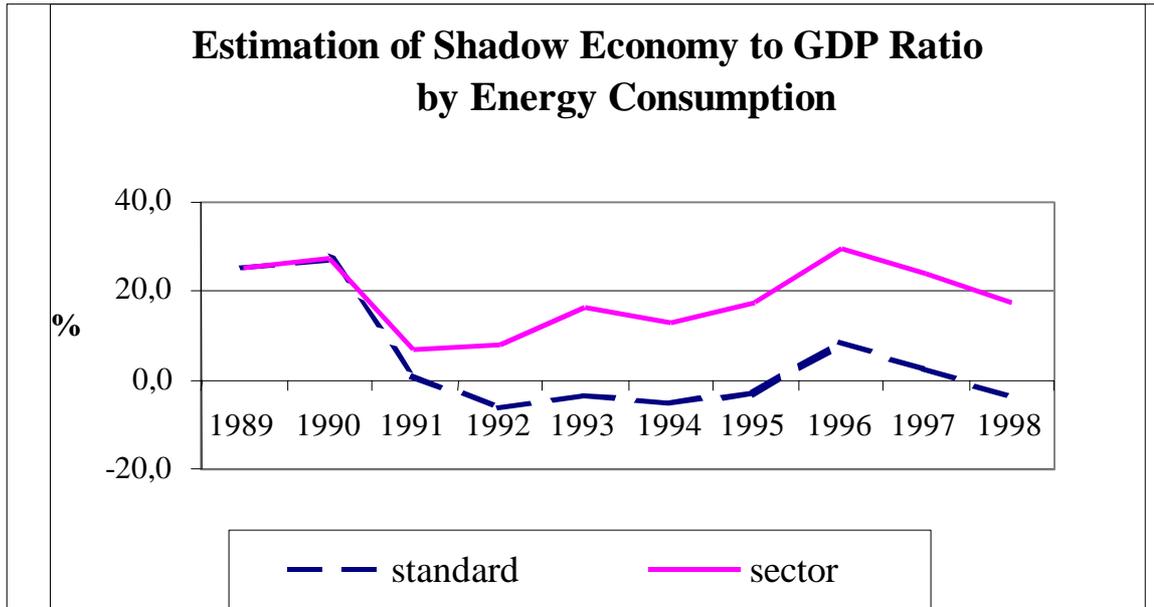


Figure 5 shows that regardless of the initial level of the shadow economy in 1989, the pattern of change across the years of transition is, of course, identical. However, it is also clear that the lowest three estimates for initial values generate negative results in the middle years. This gives some basis for accepting higher initial estimates for SE/GDP.

However, before accepting these results we must consider that just as with the standard electricity approach, the above results suffer from omission of the sector changes in the economy. If we believe that the black market flourishes most in the service (and agricultural) sector and least in industry, and consider the fact that the participation of industry in the Bulgarian GDP has almost halved since 1989 while the agricultural sector has stayed almost the same, we can see how such distortion can significantly modify the overall results.

We refine the method of looking at total energy consumption by considering energy consumption in the different sectors. For correspondence to the electricity results, we break the economy into the same two sectors, industry and everything else (service and agriculture). The difference in results between the standard and sector approach is shown in Figure 6 for a shadow economy of 25% in the base year.

**Figure 6**



**Table 3**

**Energy Approach, SE/GDP (%)**

	Standard	Sector	Standard	Sector	Standard	Sector
1989	20.0	20.0	25.0	25.0	30.0	30.0
1990	21.9	22.0	26.9	27.1	32.0	32.2
1991	-2.9	2.8	1.1	6.8	5.2	10.8
1992	-10.0	3.7	-6.2	8.0	-2.5	12.4
1993	-7.5	11.8	-3.7	16.5	0.2	21.3
1994	-9.0	8.6	-5.2	13.0	-1.4	17.3
1995	-6.7	13.3	-2.8	17.5	1.1	21.6
1996	4.3	24.8	8.6	29.6	13.0	34.4
1997	-1.5	19.5	2.6	23.8	6.7	28.2
1998	-8.0	12.8	-4.1	17.4	-0.3	21.9

With the above four methods, we capture the structural change and substitution effects that Eilat and Zinnes<sup>19</sup> proposed as a way to reflect changes in efficiency (in use of electricity) by considering the changing fraction of the private sector over time. We already include a partial estimate of efficiency in the sector division of the shadow economy. Private ownership has the largest proportion in the service sector in the economy, so to an extent its growth is accounted for in the growth of the service sector in the Bulgarian GDP, and the latter we capture in our new sector approach.

#### CONCLUSION

The physical input approach provides easy estimates of SE trends, but it is not a precise tool. Energy consumption can be biased by different factors that affect final results. As we see in the case of Bulgaria,

<sup>19</sup> Eilat, Yair and Clifford Zinnes, *The Evolution of the Shadow Economy in Transition Countries: Consequences for Economic Growth and Donor Assistance*, CAER Discussion Paper No. 83, September 2000.

different assumptions and different energy resources yield drastic changes in final results. The energy approach can be more reliable for economies with stable growth paths that do not experience dramatic structural shifts. However, for transition economies like Bulgaria, the energy consumption approach as well as the currency demand approach should be used only as an indicative measure of SE dynamics. We believe that some structural factors of the traditional electricity approach are eliminated with our sector approach when we use total energy consumption instead of electricity consumption.

We believe the most reliable method that can be used as an indicator for the shadow economy is the total energy approach by sector. Calculations from this method show that the shadow economy in 1998 has declined below the level of the 1989 base-year level. If we take a 30% level of SE in 1989, which we believe to be a realistic assumption, the SE economy in 1998 as a proportion of official GDP should be 22%. The absolute peaks of the shadow activity are calculated for 1990 (32.2%) and 1996 (34.4%). Since 1996, we have observed a declining trend in the relative proportion of the shadow economy. This is not surprising given the fact that the introduction of the currency board in mid 1997 marked a steady rise of tax revenues for the GDP. We also believe that the energy approach is basically a good tool for the assessment of the trends of shadow activities rather than relative shares. The base year relative proportion must always be given as an external value for the model and the only way to assess this value is with the micro approach.<sup>20</sup>

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20 It should be noted that it is also possible to work the other way around, i.e., to assess the previous year's shadow economy and work out the trends backwards from that point.

## THE MICRO APPROACH -- SURVEY OF SMALL AND MEDIUM ENTERPRISES

This section describes the results of a survey carried out under the auspices of the Agency for Economic Analysis and Forecasting, Harvard University, and the Institute for Market Economics. Data collection took place during the summer of 2000.

### FIRM PROFILE<sup>21</sup>

The sample consists of 509 Bulgarian companies operating in ten economic sectors. These sectors were selected based on their importance to the economy. According to data for 1999, the relative proportion of these sectors in gross value added tax is about 56%. The data collection method was face-to-face interviews with company managers using standardized questionnaires.<sup>22</sup>

Included in the survey are 87% private enterprises, 3.5% state enterprises, and 9.4% co-operatives. Forty-seven percent of the firms are registered as sole proprietorships in accordance with the Commerce Law. Most of the enterprises were registered between 1991 and 1993. In small towns, firms emerged between 1991 and 1992, and the legal status of most firms has not changed since that time, i.e., 82% of the firms have preserved their status. However, 41.2% of the firms in the chemical industry, mechanical and engineering, transport and textile production underwent a change due to privatization between 1997 and 1999.

### ECONOMIC AND FINANCIAL DEVELOPMENT OF THE FIRMS

As seen in Table 4, the profit the companies earn varies from year to year (1997-1999). Fifty-two percent of the enterprises declared a change in their profits for 1999. Only 3% of the firms have high profits. According to the survey, 30% of the companies reported losses in 1999 – more than the number of companies in 1997 (19%). Most companies with a turnover of 50-75,000 BGN have registered losses.

**Table 4**

#### Percent of Companies Declaring Losses and Profits in 1999

Company Size - Turnover	Losses	Moderate Losses	No Loss	Moderate Profit	Significant Profit	Total
less than 50 000 BGN	11.76	24.84	22.88	39.87	0.65	100.00
50 - 75 000 BGN	4.44	8.89	24.44	55.56	6.67	100.00
75 000 -100 000 BGN	14.89	12.77	14.89	55.32	2.13	100.00
100 - 200 000 BGN	13.33	13.33	10.00	56.67	6.67	100.00
200 - 500 000 BGN	12.50	25.00	12.50	50.00	0.00	100.00
more than 500 000 BGN	15.25	10.17	10.17	57.63	6.78	100.00
Total	12.02	18.03	18.03	48.91	3.01	100.00

Source: IME calculations on the basis of the survey

<sup>21</sup> This research analyzes the financial performance and development of the firms studied.

<sup>22</sup> The questionnaire was amended after a pre-test with ten companies involving three settlements. The data was collected during June-July 2000 by the American Statistical Association.

The data from the survey show that small and medium enterprises remain active in spite of uncertainty about the size of their profits. We can draw the conclusion that the financial state of enterprises is relatively stable (firms with a high turnover have reported significant profits), but it is also possible that consistently reported negative profits are simply an indication of reliance on unreported shadow activities for continued solvency.

The survey indicates a decrease in profit margin during 1999, as compared with 1997, indicating that the firms are operating in a more competitive market. The decrease is also due to higher imports as a consequence of foreign trade liberalization following introduction of the currency board, as well as to the development of competition in the domestic market.

Table 5 shows that investment in wholesale and retail trade firms is under 15 000 BGN annually, while investment in the food and beverage industry and in agriculture amounts to 60 000 BGN. Transport and mechanical and engineering enterprises invest more. Tables 4 and 5 below show investment in the period between 1997-1999. Growth of investment was evident in firms with an annual turnover of more than 200 000 BGN.

**Table 5**

**Assessment of Annual Change in Total Value of Investments in 1999**

Company Size-Turnover	Strong Decline	Small Decline	No Change	Small Growth	Strong Growth	Total
less than 50 000 BGN	36.43	27.13	19.38	12.40	4.65	100.00
50 - 75 000 BGN	21.62	13.51	27.03	29.73	8.11	100.00
75 000 -100 000 BGN	32.50	17.50	17.50	30.00	2.50	100.00
100 - 200 000 BGN	26.09	13.04	13.04	30.43	17.39	100.00
200 - 500 000 BGN	16.67	10.00	26.67	40.00	6.67	100.00
more than 500 000 BGN	22.22	9.26	18.52	38.89	11.11	100.00
Total	29.07	18.53	20.13	25.24	7.03	100.00

Source: IME calculation on the survey – cross-tabulation

**Table 6**

**Assessment of Annual Change in Total Value of Investments in 1997**

Company Size-Turnover	Strong Decline	Small Decline	No Change	Small Growth	Strong Growth	Total
less than 50 000 BGN	13.04	10.87	31.88	36.96	7.25	100.00
50 - 75 000 BGN	0.00	9.38	34.38	53.13	3.13	100.00
75 000 -100 000 BGN	5.88	17.65	23.53	50.00	2.94	100.00
100 - 200 000 BGN	4.00	24.00	20.00	48.00	4.00	100.00
200 - 500 000 BGN	8.57	8.57	34.29	37.14	11.43	100.00
more than 500 000BGN	4.26	14.89	36.17	25.53	19.15	100.00
Total	8.36	12.86	31.19	39.23	8.36	100.00

Source: IME calculation on the survey – cross-tabulation

The dynamics of company investment can be characterized as stable, with a definite tendency towards increase for the large-scale firms. In 1999, about 6% of the small firms with a turnover below 50 000 BGN declared a decrease in investments. At the same time, 50% of the larger companies reported investment growth in 1999. According to the managers, the sources of investment funds are profits (66.0%), personal savings (53%), and bank credits (24.2%); 42.9% of the managers claim that investment is insufficient, 40.3% - medium, only 16.8% consider it high.

The value of sales has grown in comparison with the first accounting year. All firms generated greater profit than they had when they started the business, i.e., the first accounting year. For construction, chemical, mechanical and engineering firms, the value of sales ranges between 100 000 and 200 000 BGN. In other sectors, the value of sales is generally between 75 000 and 100 000 BGN. Wholesale and retail trade firms register low sales - between 50 000 - 75 000 BGN.

There is a deviation between the data the companies supply for sales trends in the survey and the data of the National Statistic Institute (NSI) for sales in the overall economy during 1998-1999. The reason could be that the survey estimate is based on an unweighted average of the answers of the respondents. At the same time, the distribution of the companies in the survey according to size shows that in 1999 the large firms (with a turnover of more than 200 000 BGN), which have a very small proportion in the total number of enterprises in the country,<sup>23</sup> contributed most to the growth of sales.

**Table 7**

**Annual Change in Total Value of Sales in 1997**

Company Size-Turnover	Strong Decline	Small Decline	No Change	Small Growth	Strong Growth	Total
less than 50 000 BGN	8.33	25.00	23.61	36.11	6.94	100.00
50 - 75 000 BGN	0.00	0.00	41.67	41.67	16.67	100.00
75 000 -100 000 BGN	0.00	5.88	41.18	35.29	17.65	100.00
100 - 200 000 BGN	0.00	0.00	40.00	50.00	10.00	100.00
200 - 500 000 BGN	0.00	8.33	16.67	75.00	0.00	100.00
more than 500 000BGN	8.33	8.33	8.33	66.67	8.33	100.00
Total	5.19	15.56	26.67	43.70	8.89	100.00

Source: IME calculation on the survey – cross-tabulation

**Table 8**

**Annual Change Total Value of Sales in 1999**

Company Size-Turnover	Strong Decline	Small Decline	No Change	Small Growth	Strong Growth	Total
less 50 000 BGN	46.48	21.13	18.31	12.68	1.41	100.00

<sup>23</sup> According to the survey of the Agency of small and medium enterprises, in 1999 the share of the small and medium-sized enterprises was 98.9%. The share of the private sector in GDP is 56.7%-1998, 65.3%-1999 and 70%- 2000.

50 -75 000 BGN	28.57	21.43	7.14	42.86	0.00	100.00
75 000 -100 000 BGN	29.41	35.29	17.65	11.76	5.88	100.00
100 - 200 000 BGN	25.00	16.67	25.00	16.67	16.67	100.00
200 -500 000 BGN	0.00	14.29	28.57	57.14	0.00	100.00
more 500 000BGN	15.79	15.79	5.26	47.37	15.79	100.00
Total	34.29	21.43	16.43	22.86	5.00	100.00

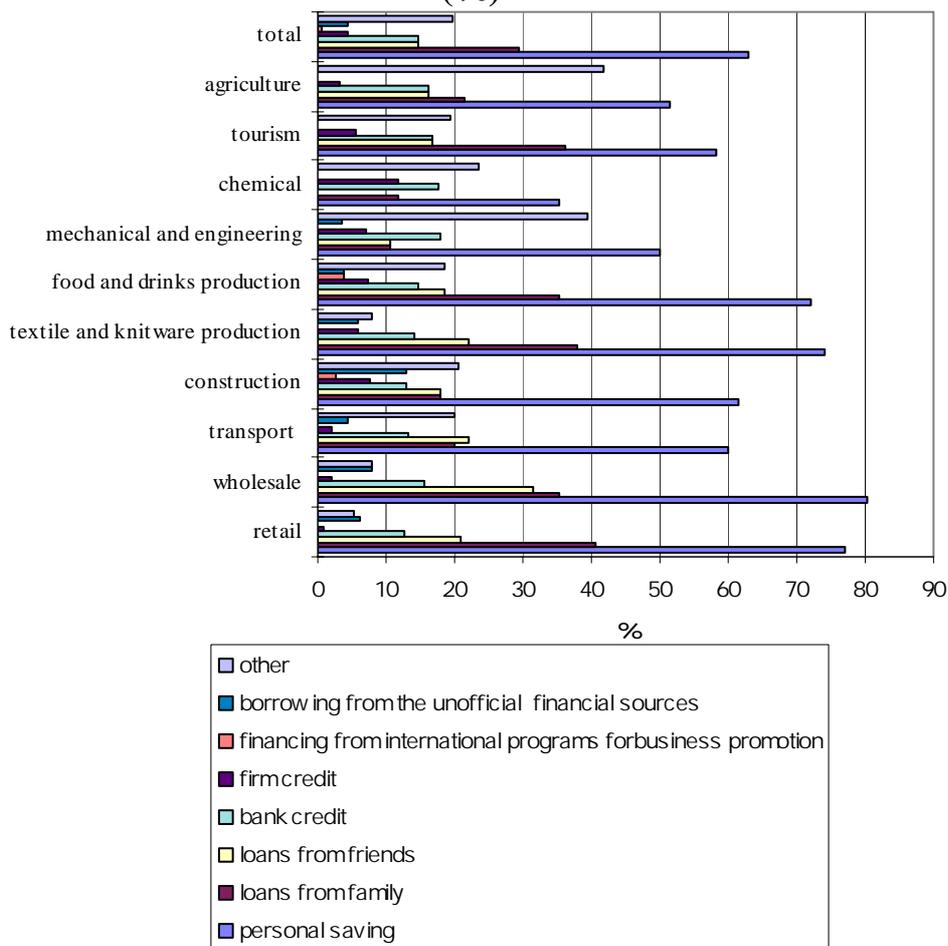
Source: IME calculation on the survey – cross-tabulation

The following conclusion can be made: the growth of investment and sales in 1999 is due to high investment of companies having a turnover of more than 200 000 BGN. In 1997, the investment trend was almost equal for all companies, regardless of their size.

It is interesting to point out that for most firms, regardless of the economic sector, start up capital is typically acquired from personal and family savings (65% on average). Only 18% of the enterprises have used bank credit (17% in the chemical industry, where the proportion of personal savings is low).

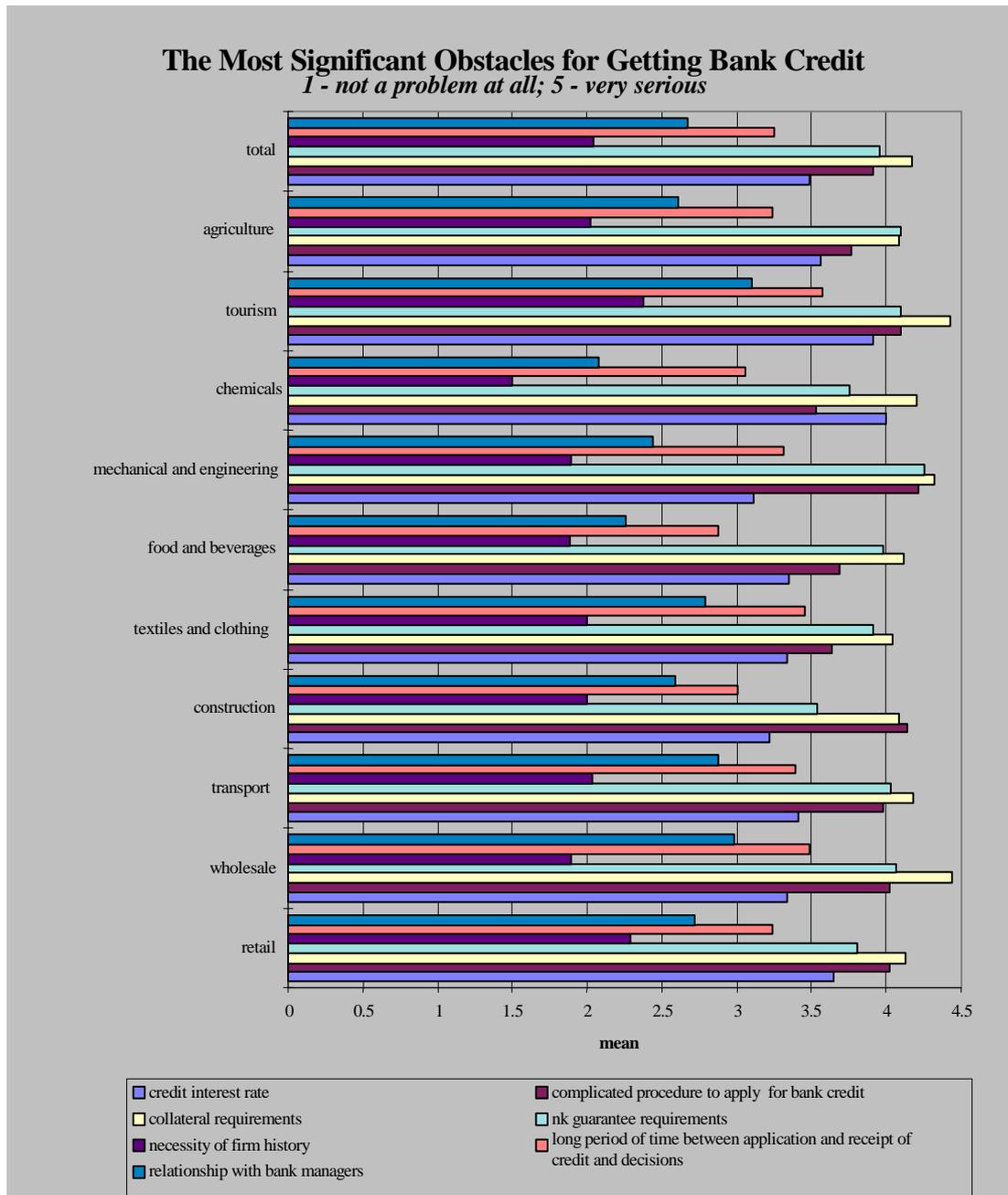
Figure 7

### The Major Sources of Start Up Capital (%)



To provide capital in subsequent years, firms use personal savings (58.1%), profits (51.5%) and bank loans (29.1%). The managers point out that serious problems for obtaining credit are: collateral requirements, complicated procedures when applying, the need to present bank guarantees, interest rates, and the need for the firm's accounting record history.

Figure 8



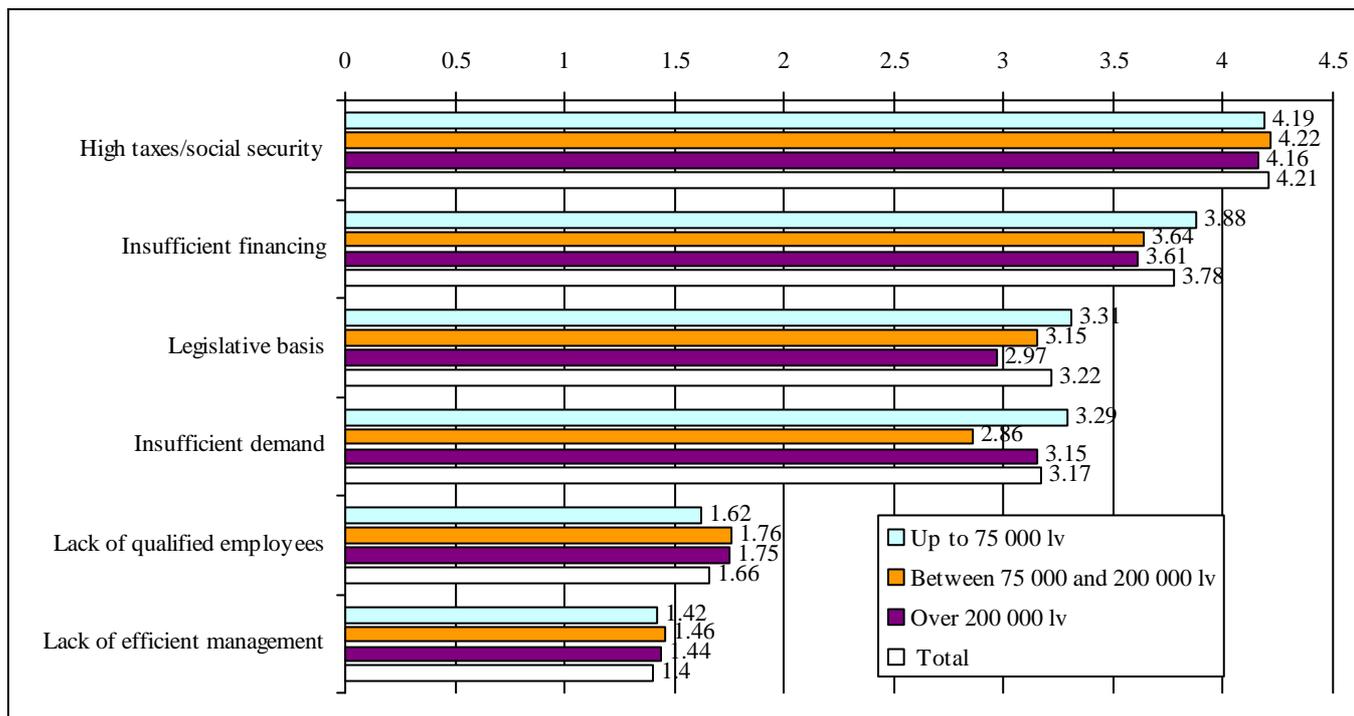
Of the managers interviewed, 47.3% point out that there is no problem obtaining information and co-operation from the bank employees for “facilitating the procedure” to receive credit. This means that bank employees are willing to grant favors (accept bribes), thus breaking the rules of bank servicing -- equal credit access for firms and adherence to business ethics. This percentage is quite high, revealing a disposition of bank employees toward receiving additional payments. Such activities are indications of corruption, and they help to promote the shadow economy.

Business development is determined by various factors - household incomes and other demand factors, possibilities for financing, interventions from the state and mechanisms for business regulation (licenses, permits and other similar measures aimed at regulating businesses and restraining economic freedom). Figure 8 lists the barriers impeding businesses, as ranked by managers, according to firm turnovers.

The company managers point out tax burden, social insurance and insufficient financing as major obstacles to development and expansion of businesses.

**Figure 9**

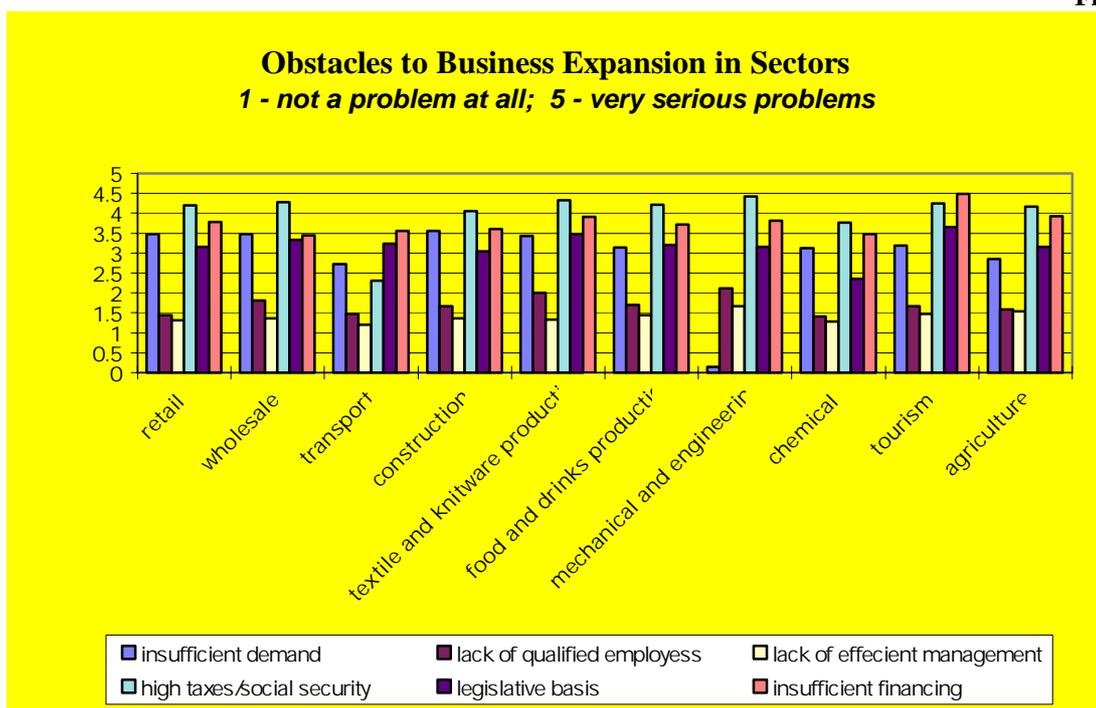
**What Are the Obstacles to Business Expansion?**  
*1 - not a problem at all; 5 - very serious problem*



The above graph reveals the following about business expansion according to company size:

- The tax burden is evaluated as the most significant barrier for all types of companies.
- Insufficient financing is a higher barrier for the smaller companies than it is for the larger companies, though all firms, especially those with a small turnover, indicate insufficient financing as a problem.
- Legislative basis restricts development of the smaller companies more than the larger companies.
- The lack of qualified employees and management does not significantly restrict either small or large companies.
- Construction, wholesale and retail trade companies indicate insufficient demand as a serious problem.

Figure 10



The current tax and social insurance system does not contribute to the development of legal business. Therefore it is necessary to improve the respective regulations so more companies can operate in the formal sector.

**FACTORS FOR THE DEVELOPMENT OF THE SHADOW ECONOMY**

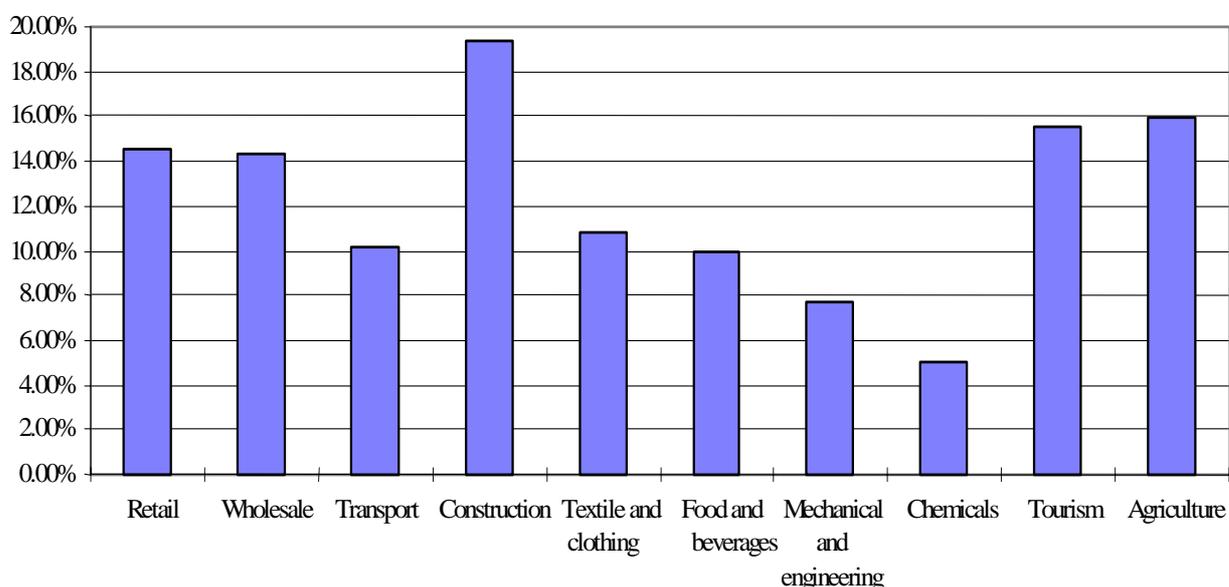
Paying in cash is an indicator of the informal economy since authorities cannot tax money flow between firms. In this way, transactions are not registered officially and information concerning money circulation is distorted. The survey data shows that 54% of the respondents make and receive payments in cash and 32% make and receive payments through the banking system.

Most firms prefer cash transactions. This can be seen in the wholesale and retail trade, in transport, tourism, agriculture, and in the textile and clothing sectors. When we analyze the responses, we can conclude that 69.4% of the enterprises prefer to pay in cash, and 19.2% cite the greater freedom they have with this method of payment. According to 14%, the cause lies in the low quality bank services and higher costs of payments through banks. It indicates that managers and owners have a propensity to avoid transparency of transactions and to operate in the shadow economy.

The greatest cost saving results from making a large proportion of deliveries without invoices and, in 66% of the cases, this savings reaches a level of 23% for companies that are supplied without invoices. Figure 11 shows that construction, agriculture, tourism, and wholesale and retail trade companies are quite inclined to under report incomes by not issuing invoices.

Figure 11

### Proportion of the Cost Saved by the Firms When Delivery Is Without Invoice (%)



Administrative requirements and bureaucratic customs procedures, combined with numerous documents that must be attached to the export and import transactions, create the motivation for firms to operate in the shadow economy, thus saving time and money.

#### LICENSING AND PERMIT REQUIREMENTS

Licensing and permit requirements usually constitute a substantial part of the cost of operation "out of the shadow." These costs include direct expenses made to obtain and maintain the license or permit, as well as the indirect costs in terms of man-hours for the firm spent dealing with the issue.

Table 9

#### Direct and Indirect Costs (in BGN) of Compliance and Non-Compliance with Selected Legal Requirements

Regulation	COMPLIANCE			NON-COMPLIANCE		
	Indirect Costs	Direct Costs	Total Costs	Indirect Costs	Direct Costs	Total Costs
Registration at court <sup>24</sup>	74	80	154	30	100	130
Registration at BULSTAT	30	0	0	-	-	-
Registration at the National Social Security Institute (NSSI)	30	0	0	45	30	75
Licensing/permits (total)	149	50	199	74	130	204

Source: IME data

Table 9 notes:

<sup>24</sup> In some answers the respondents have not taken into account state fees; this is valid for company registration.

1. In some answers the respondents have not taken into account state fees; this is valid for company registration.
2. Indirect costs are estimated on the basis of man-hours spent in compliance or non-compliance. The number of man-hours is converted into BGN through the average value added tax per day per person in the private sector in 1999. (Source of macro-data: National Statistical Institute and National Employment Agency)
3. In the costs of non-compliance, the companies probably do not consider fines or the probability of being fined. Therefore the indirect costs of non-compliance should be considered undervalued.
4. The last row in Table 17 shows the totals. However, the total costs of compliance (or non-compliance) could not be applicable to a concrete firm since such a firm's activity is most likely not to fall under all of the regulations above. Also, it is not correct to add the total costs of compliance and non-compliance, since most of the firms have answered both for the costs of compliance and the costs of non-compliance, although facing only one of the two types of costs. The last row thus gives an idea of the relationship between the costs of staying "in the shadow" and the costs of operating "outside of the shadow," as well as for the shares of the indirect and direct costs within the total costs.

In Table 9, the direct and indirect costs of compliance and non-compliance with some legal requirements are given.<sup>25</sup> In comparison with the other three general requirements of starting a legal business operation, the licensing and permit requirements are, on average, more expensive in terms of direct costs and time spent, than the court, statistical and mandatory insurance registrations. At the same time, the cost of non-compliance with such regulations is higher than the cost of compliance, which means that such requirements cannot motivate companies to move "into the shadow." However, these regulations cannot by themselves motivate companies to legalize their activities either. One should not forget that most businesses in Bulgaria comply with at least some (but maybe not all) regulations. Therefore, there could be companies that comply with the licensing requirements, but still keep value added tax hidden.

Another interesting point is that, when complying with the licensing and permit regulations, indirect costs are three times higher than direct costs. This is probably due to the administration's clumsy procedures and low-quality service.

Based on data obtained in the survey, 67.8% of companies claim that their activity requires some kind of license and/or permit. The percentage is highest in the tourism sector (100%), where every tour operator and tourist agency must have a license and every hotel and restaurant must hold a category certificate. The figure is slightly lower in the transportation sector (93.3%), followed by retail trade (87.4%) and the food industry (83%).

The attitude of businesses towards licensing and permit regulations is extremely negative. Almost 28% of the companies in the survey think that the licensing regulations should be relaxed, and 33% indicate that permit regulations should be removed. Only attitudes towards taxes and social security payments are more negative than the attitudes towards licenses and permits.

Only 1.5% of the companies in the survey answered that they operate without a license when it is legally required. At the same time, it is likely that a large percent of the licensed companies still remain "in the shadow," hiding some substantial proportion of their activities.

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<sup>25</sup>Based on the primary data from a joint survey of IME and Bannock Consulting on the administrative barriers to business in Bulgaria.

Again the rate of total non-compliance is highest in the tourism sector, where as much as 5.6% of the companies operate without a license. The rate of total compliance is lowest in the wholesale business (88.9%), and this is probably because of the huge number of licenses, permits and certificates needed and large indirect costs and informal direct expenses.

The average costs (state fees plus consultants' and lawyers' fees) of obtaining a license are estimated at 14.5% of a company's monthly sales. Half of the firms included in the survey paid 200 BGN per year for renewal and maintenance of their licenses.<sup>26</sup> The proportion of licensing and permit costs is the highest in the chemical sector (33.7%) and the lowest in the wholesale trade (7%). However, other expenses (such as traveling to the licensing agency), indirect costs (in terms of time spent dealing with the administration), and informal expenses (e.g. bribes) are not included in the evaluation.

#### **EFFECT OF THE TAX AND INSURANCE BURDEN ON THE SHADOW ECONOMY**

##### ***Significance of the tax burden for Bulgaria***

Tax evasion is one of the main incentives for the existence of the shadow economy.

To fulfill one of the main survey objectives, direct and indirect questions were employed to estimate the effect of the tax burden. Managers of small and medium-size enterprises (SME) were asked to assess this burden from two aspects:

1. The extent to which the tax burden give incentives to shadow economy development.
2. A quantitative evaluation of the proportion of evaded taxes.

According to the businessmen interviewed, the tax burden is the most serious obstacle to the development of the business in Bulgaria.

The high tax burden is also considered a major reason for tax evasion. This opinion is fully supported by 77.8% of those interviewed, partially by 18.4% and only 3.8% do not agree with it.

##### ***Efficiency of the tax administration***

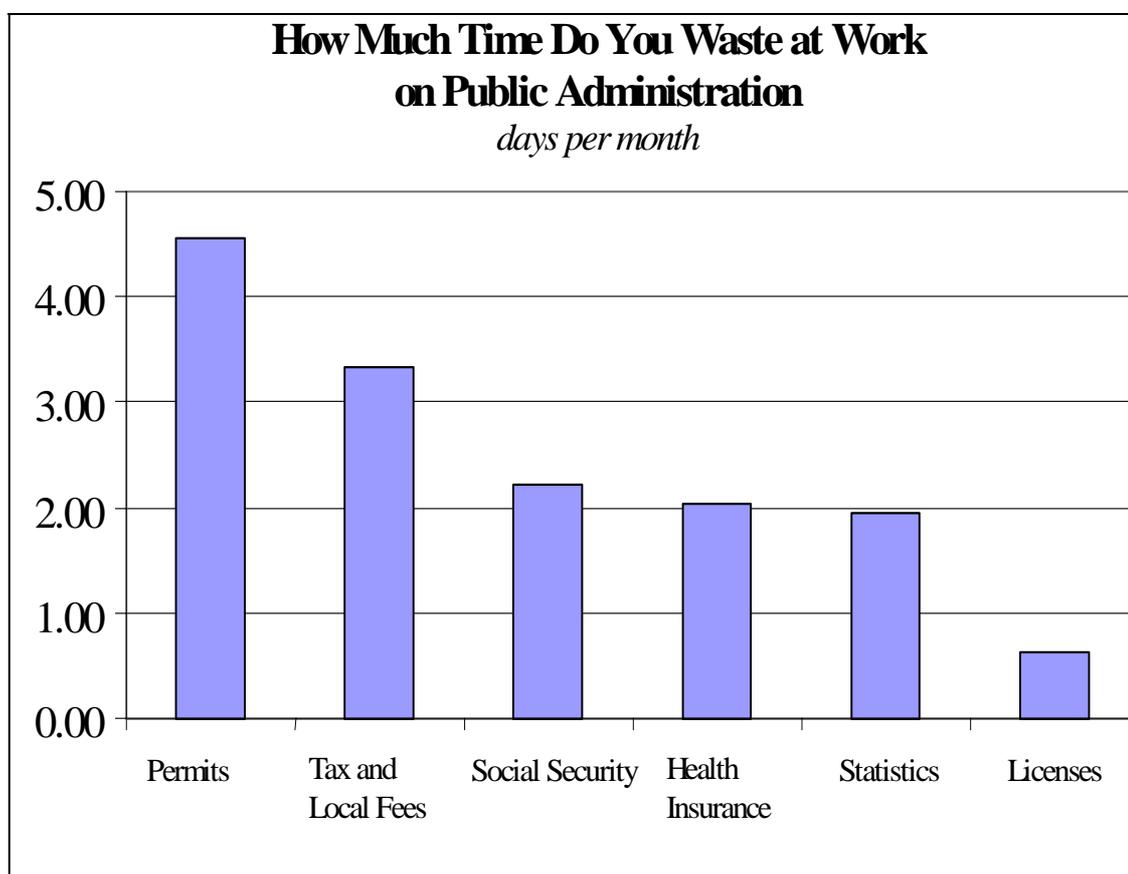
In the analysis of the incentives for tax and insurance evasion, we have to take into consideration the tax burden as well as the quality of services in tax administration. The ineffective functioning of the tax authorities and unpredictable legislation are factors which can further increase the cost of reporting tax and insurance payments. These expenses are both direct (hiring more people, creating influence by giving bribes, etc.) and indirect (opportunity costs of the time which, though both are important, is spent to create contacts). As an indirect measure of the administrative impediments, we have used the time spent by businessmen for contacts with state authorities, measured in days per month. The answers obtained show that businesses lose the most time in obtaining licenses. Second on the list is time needed for working with tax authorities. Consequently the tax rate, and not the administrative barriers, is a primary incentive for considering the tax burden a major problem, though both are important. At the same time, adding the total number of days spent for tax or

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<sup>26</sup> The analysis of the respondents' answers to "Can you estimate the annual cost to a company like yours for renewal and maintenance of the license?" shows high dispersion in terms of declared costs. (the answer could be yes or no!)

insurance purposes, we obtain 7.5 days per month (which shows that there are considerable opportunity costs). The time spent reporting for healthcare insurance is more or less equal to the time spent for the pension insurance. If we take into consideration the fact that the burden of healthcare insurance is 5-6 times less than that of pension insurance, we must regard the administrative procedures related to the newly established healthcare insurance system as extremely ineffective.

Figure 12

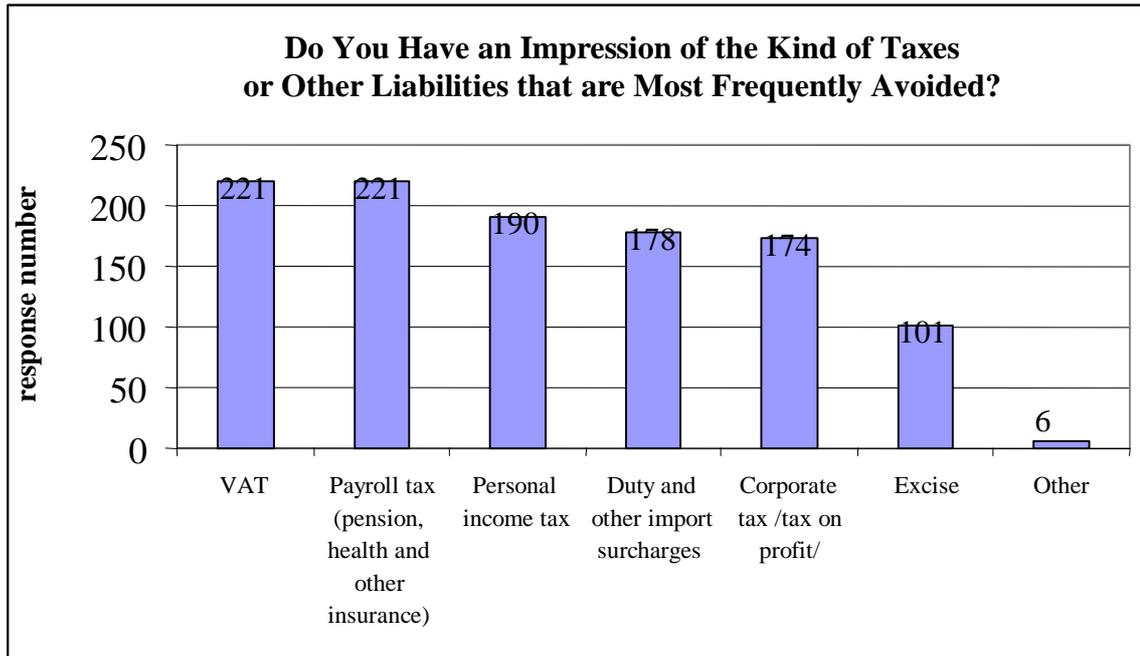


*Quantitative evaluation of the shadow economy aimed at tax evasion*

A higher tax burden would imply an increase in incentives for tax avoidance and evasion and is a primary cause for transition from the formal to the shadow economy. We take tax avoidance to mean the formal restructuring of the business in order to avoid certain taxes, as opposed to illegal evasion of taxes. Rather, it involves taking advantage of certain "loopholes" which permit legal escape from the objectives of tax legislation. In both cases, the evaluation of unpaid taxes does not necessarily imply that a firm is 100% in the shadow economy.

In the formulation of the questions, an explicit distinction between the two ways of saving taxes was made in order to assess the overall effect and avoid unnecessary tension among those interviewed.

Figure 13



The taxes that are most frequently evaded are value added tax (VAT) and social security payments (Figure 13). However the assessment of taxes which are most often evaded and the quantitative evaluation of the proportion of the evaded taxes are different. Thus, for example, VAT, payroll taxes and the personal income taxes are at the top of the list of the most frequently evaded obligations, but they are pushed down to the last places in the ranking within total evaded taxes. This is so because of the different tax regulations that allow only partial reduction of declared incomes in order to evade personal income and payroll taxes. This practice is confirmed in the analysis of response to the inquiry about employment (see section below on the labor market).

**Table 10**

**Do You Have an Impression about the Percentage of Taxes or Other Liabilities that Are Most Frequently Avoided?**

Liability	Number of Responses	Mean (%)
Duty and other import surcharges	110	39.4
Corporate tax /tax on profit	118	38.5
Excise	75	36.8
Payroll tax (pension, health and other insurance)	165	36.0
VAT	163	32.4
Personal income tax	127	31.4
Other	5	48.0
Weighted average		35.5

Concerning the evasion of VAT, there is no denying the practice of simultaneously selling goods where VAT is and is not included depending on the client and his or her desire

to receive an invoice. This practice is reflected in the question: "Do you know any firms where two different prices are set for one and the same product or service depending on whether an invoice is requested or not?" Approximately 45.7% of the interviewed consider it a common practice, 28.1% think that it is practiced only in a few firms, 11% are of the opinion that there are no such companies and 15.2% do not want to answer the question.

#### *Relationship between evaded taxes and GDP*

When there are tax evasion and tax avoidance of indirect taxes (VAT, duties, excise), as well as cases of underreporting personal income and payroll tax earnings, the undeclared amount is equivalent to the shadow economy size. With the purchase of documents certifying expenses in order to evade taxes on profit, there is only a transformation of the value added tax from one firm to another without influencing the value of GDP. For example, company X could use forged documents certifying expenses which would lessen its actual profit. Thus the tax on profit is evaded and the calculations for the GDP would be lowered by the amount of the fictitious expenses. At the same time, a company Y which incurs actual losses could issue a fictitious invoice without incurring any tax on profit payments for itself. It would increase its revenues through the issue of the invoice and those revenues would be recognized as value added tax. The result of the above example is that no tax on profit has been paid, but this has not led to a decrease of GDP. In order to evaluate the shadow economy from the point of view of the tax avoidance, the assessment of tax on profit has to be corrected. According to the average value of the answers given, 25.3% of the corporate tax is evaded by purchasing fictitious documents certifying expenses. In order to calculate the exact affect the weighted average of those who think that there is no such practice (91 of those interviewed) must be deducted from the above result. In this way we obtain the weighted average size of the tax on profit evaded by purchasing fictitious invoices - 16.4%. The relative size of the evaded corporate tax (Table 10) is 38.5% and therefore the effect on GDP is an underestimate of the value added tax of 22.1% due on profit. If we make the necessary calculations to obtain the overall average size of the evaded taxes for the various types of taxes, we can see that shadow activity for tax avoidance or evasion is 33% of GDP. This result is probably an overestimate as it is possible to avoid excise taxes by declaring certain sales as non-excise goods. In this case, the effect on GDP is the saved excise tax from which we deduct the increase in gross consumption due to the lowered price that results. The latter depends on the elasticity of demand of the respective good and is impossible to evaluate based on currently available information. On the other hand, the total value of the shadow economy must not be reduced to that caused by tax evasion. It also includes omissions of the statistical institutions when they give an account of the total value added tax and of some illegal activities such as arms, drug and people traffic, unlicensed software, unregulated use of copyrights, etc.

#### *Analysis of the tax burden by sector*

A greater difference in the judgments of the businessmen by sector was observed with the specification of the tax or insurance payments. Five industries pointed to the personal income tax as the most serious barrier. Three of the sectors indicated pension insurance as the most serious obstacle, and two the VAT. Only in the "textile and clothing industry" was the tax on profit regarded as the most substantial impediment. We have to make allowance for the fact that healthcare insurance is distinguished from pension insurance, and this skewed the assessment of the total insurance burden.

**Table 11**

**Which of the Following Taxes, Fees and Social Insurance Payments  
are the Most Serious Obstacles for Complete Legalization of Business?**

<b>Sectors</b>	<b>VAT (%)</b>	<b>Pension Insurance (%)</b>	<b>Income Tax (%)</b>	<b>Corporate Tax (%)</b>
<b>Chemicals</b>			<b>69</b>	
<b>Construction</b>		<b>61</b>		
<b>Textile and clothing</b>		<b>52</b>		<b>52.0</b>
<b>Retail</b>		<b>49</b>		
<b>Agriculture</b>			<b>66</b>	
<b>Transport</b>	<b>59</b>			
<b>Food and beverages</b>			<b>67</b>	
<b>Wholesale</b>			<b>54</b>	
<b>Mechanical and engineering</b>			<b>63</b>	
<b>Tourism</b>	<b>66</b>			

On the whole, the perceived significance of each tax is determined by the specific character of the business and not by the existence of a discriminatory sector approach in the adoption and enforcement of the tax legislation. For example, in the transport and tourism sectors, competitiveness depends directly on the VAT rate and its application with respect to foreign clients. It is these sectors which identify the VAT as a major barrier. No statistically significant difference can be observed in the effects of the tax burdens calculated according to the size of the enterprise.

*Conclusions about the tax burden*

1. The high tax burden is considered to be a major barrier to business development, with the main problem being the income tax and insurance rates; whereas in the opinion of those interviewed, tax administration inefficiency has a lesser effect. In this context any economic measures aimed at decreasing the tax burden would positively influence business environment and economic growth. Special attention must be paid to reduction of social security payments which are some of the most frequently avoided payments.
2. According to those interviewed, on average 35.5% of the taxes due are evaded. This amounts to about 33% of the GDP, the percentage being a little overestimated because of the peculiarities of the methods for evading excise taxes. This form of the shadow economy does not take into consideration the statistical omissions concerning full coverage of the small businesses as well as totally illegal ("underground") business. A quantitative evaluation of taxes avoided is not equivalent to the proportion of shadow economy in the gross value added. These figures are clearly suggestive of the large proportion of the shadow economy in the overall economy.
3. The considerable size of the shadow economy resulting from the tax burden is quite evenly distributed across sectors.

4. In macroeconomic analyses and forecasts of potential GDP growth, as well as in international comparisons of living standards, the shadow economy must not be disregarded as a factor. It is also a considerable resource which can be used to lower the tax burden without causing a large reduction of fiscal revenues if the taxable base is extended, and the risk and size of fines for tax violations are increased.

**The shadow economy and the labor market**

One aspect of the informal economy is underreporting a part of earned incomes by economic agents. A major reason for this is evasion of payments due to the state budget, the National Social Security Institute, the Health Insurance Fund, etc., either by the individuals themselves or by employers.

The research was intended to monitor the proportion of the informal sector in the labor market. This phenomenon has two aspects:

1. Some individuals are hired without labor or non-labor contracts. Their income is not declared as an expense of the employing company, or as personal income of the individuals;
2. Officially companies might declare lower wages than actually paid. In this way a part of the enterprises' newly created income is not officially declared. A modification of the latter is hiring people to perform a particular job using a non-labor contract rather than a labor contract. Thus, until the beginning of 2000, the individuals had to make their own social security payments.

Between 13% and 15% of the companies in the survey declared hiring people without a contract in each of the years under examination (1997-1999), as well as during their first accounting year. Nevertheless, among those companies in the survey, there is a general growth tendency in the total number of employees without a contract.

**Table 12**

**Structure of Employment within the Firms Sampled (%)**

	First accounting year	1997	1998	1999
Hired on a labor contract	94.99	93.26	93.50	92.16
Hired on a non-labor contract	2.80	4.52	4.41	4.85
Hired without a contract	2.22	2.22	2.09	2.99

Until the beginning of 1999, individuals hired without a contract were 2% of the total number of the employed by the firms, whereas in 1999 this figure grew to 3%. In this same year, the proportion of those employed on a non-labor contract increased by 0.4%.

**Table 13**

**Change in the Number of People Employed with Respect to the Previous Year (%)**

	1998	1999

Hired on a labor contract	10.86	-15.68
Hired on a non-labor contract	7.79	-5.94
Hired without a contract	3.90	22.34
<hr/>		
Total number of people employed	10.57	-14.46

The trend in the number of people employed according to type of contract with employers is particularly indicative. In 1998, the total number of employees in the companies included in the sample grew by over 10%, whereas the number employed by a labor contract increased faster than the number of those employed by other agreements. Those employed without contracts grew in number too, but only by about 4%. In 1999, the total number of employees in the companies included in the survey fell by over 14%. At the same time the number of employees without contracts was the only category to grow - by an impressive 22%. Regardless of their small proportion in employment as a whole, this change is indicative of a general tendency in the preferences of enterprises to engage more and more people without contracts.

**Table 14**

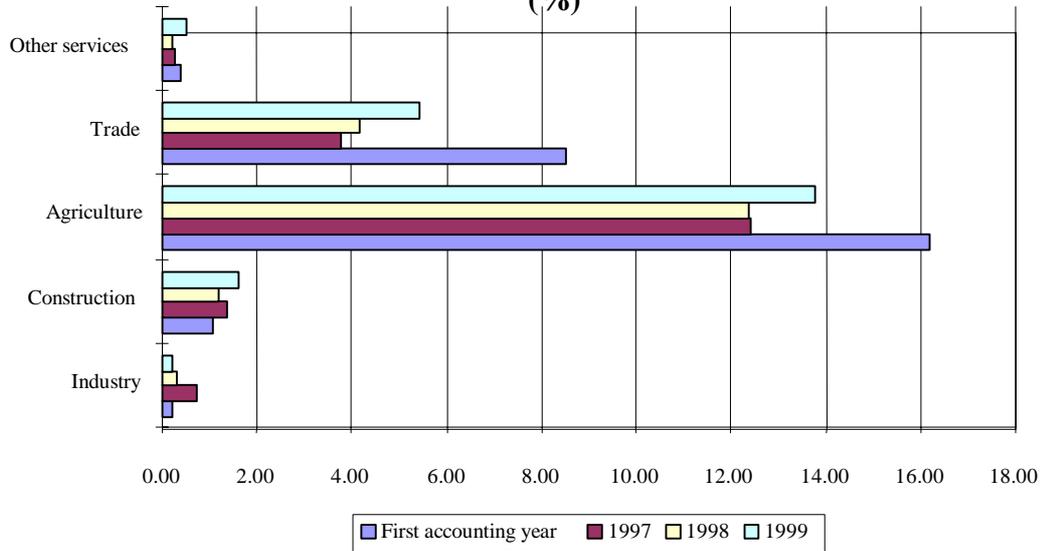
**Allocation of Firms According to the Proportion of Hired Workers without Contracts in the Total Number of People Employed (%)**

	First accounting year	1997	1998	1999
0%	85.84	87.16	87.12	85.07
Between 0% and 50%	7.53	6.56	5.81	8.29
Between 51% And 100%	3.01	3.01	2.78	3.32
<hr/>				
100%	3.61	3.28	4.29	3.32

These results reveal that approximately 2.5% - 3% of those employed are not registered, i.e., between 70,000 and 90,000 work without contracts. Since the second half of 1999, the statistics of the National Employment Service have been showing unemployment higher by 50,000 to 100,000 people than shown by the National Statistical Institute. Therefore it is possible to regard these individuals as people who have an occupation during the year, or at least during given months of the year, but do not declare it.

**Figure 14**

**Proportion of People Employed Without Contracts  
with respect to Total Employment in the Firms by Sectors  
(%)**

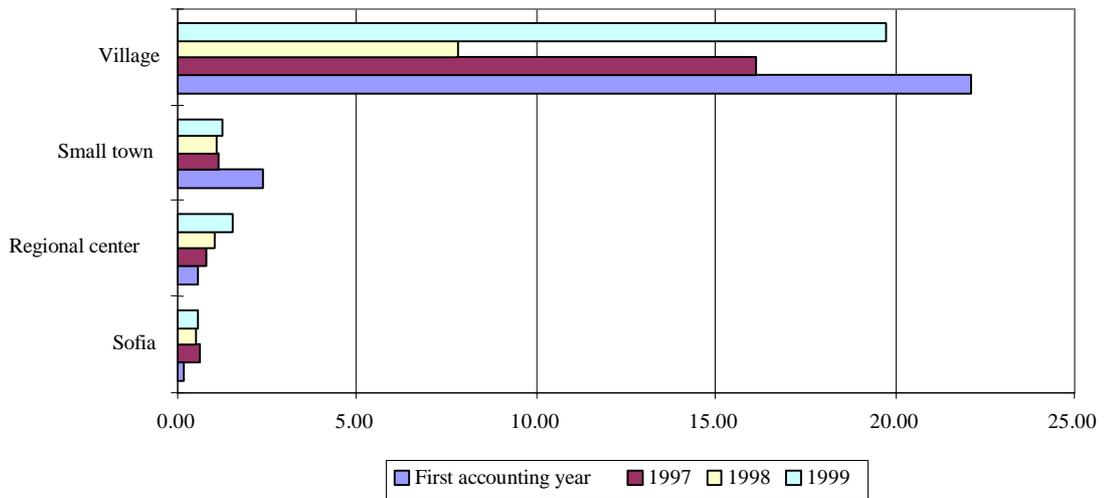


A more detailed analysis shows that agriculture and trade are the sectors where non-contract employment is most common. Over 16% of the workers in agriculture had no labor contract during the first accounting year. In 1997 and 1998 they accounted for 12.4%, but in 1999 those who were employed without any contract accounted for 13.8% of the total of those employed in agriculture. Among trade firms there is a continuously rising trend in the number of people employed without contracts - from 3.8% in 1997 to 5.4% in 1999. In the remaining three sectors, the proportion of people employed without a contract is very small, and even among industrial enterprises and service companies (with the exception of trade) it is as low as 0.5%. It should be pointed out that the number of individuals employed without contracts among industrial firms diminished during the period 1997-1999 in contrast to almost all other sectors.

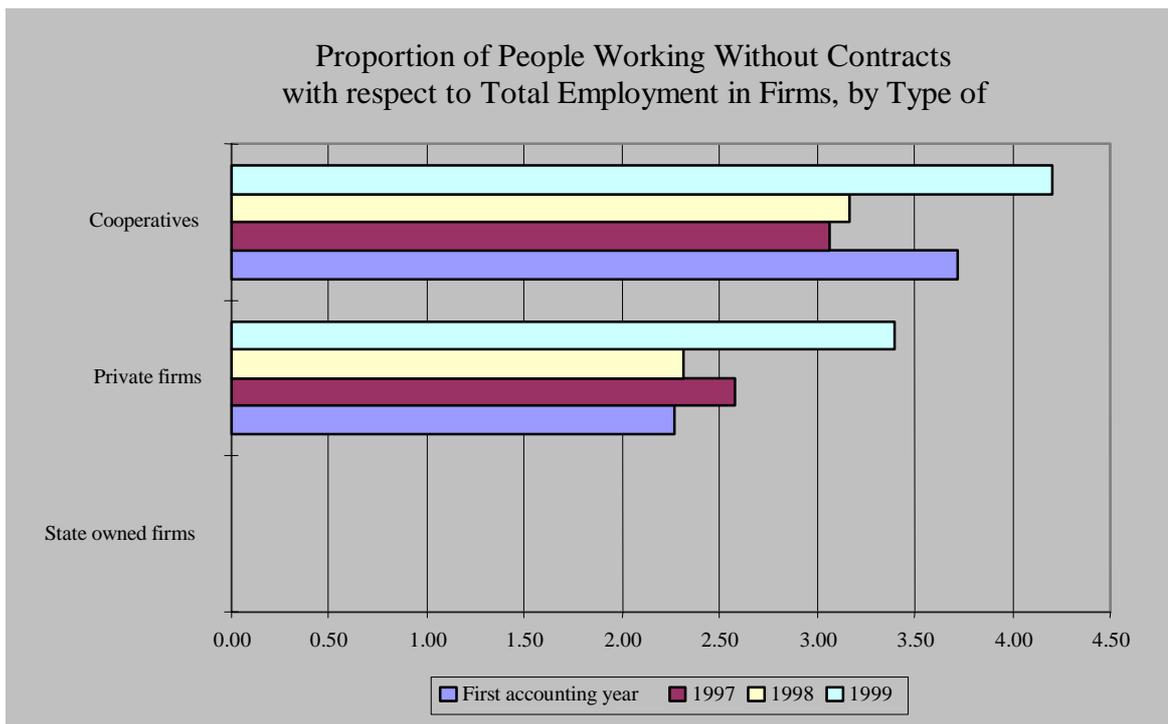
Comparing the proportion of people hired without a contract to the total number of people employed in different sectors of the economy, it can be concluded that, for the most part, these employees are seasonal or temporary, given their concentration in agriculture and trade. When an individual is hired for a relatively long-term or even permanent job, it is almost impossible to hire him or her without a contract.

**Figure 15**

*Proportion of People Employed Without Contracts with respect to Total Employment in Firms, by Type of Location (%)*



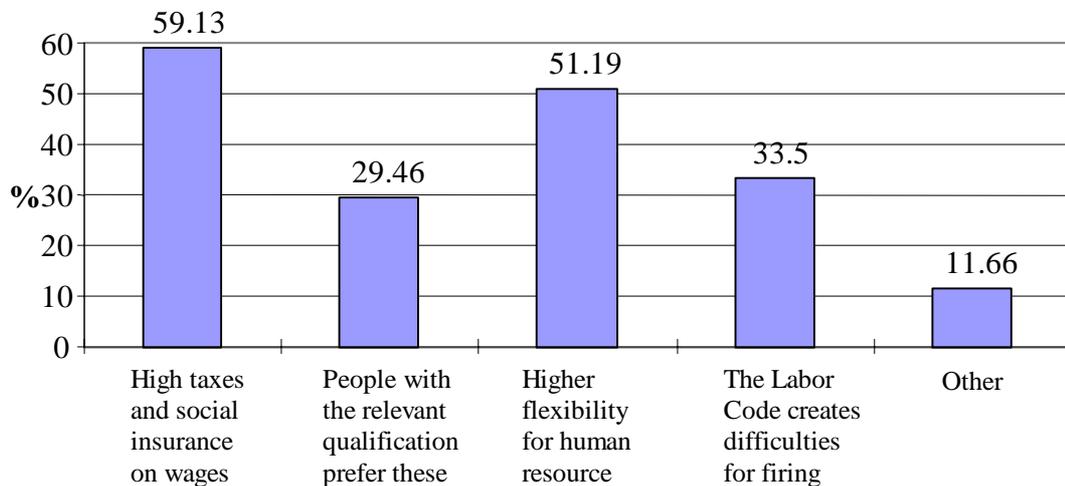
**Figure 16**



The data shown in Figure 15 is not surprising as far as it concerns the state enterprises. No employment without a contract is registered during any of the years reported. It is clear that there is less scope and less incentive for state enterprise managers to engage in such tax avoiding practices. We can also see from Figure 15 that the cooperatives are more willing to hire workers without a contract than are private enterprises (it may be due to the greater weight of the agricultural firms in the totality). However, the differences are not as large as with the other groups of firms in the totality of companies surveyed.

Figure 16

Reasons for Employers to Use Non-employment  
in Place of Employment Contracts



Approximately 60% of the employers interviewed answered the questions about why they prefer to engage workers for particular activities on non-labor rather than on labor contracts. In about 60% of the cases, the firms have not hired people using non-labor contracts, and at least 20% of the firms answered the question although they have engaged people only on a labor contract. The most important reasons for preferring non-labor to labor contracts are:

First, the high salary-related costs for the firms (social security payments, health care and unemployment insurance, etc.) – cited by about 60% of those who answered the question.

Second, labor contracts are preferred as they facilitate achieving a better flexibility while optimizing the number of employees in the companies – cited by more than 51% of the cases.

Presumably the disposition to hire on non-labor contracts, rather than on labor contracts, is an indication that a given employer is more willing to engage people without a contract. On this basis, we can estimate the average number of individuals employed without contracts within the total number of people employed by the firms which have specified any of the reasons for preferring a non-labor to a labor contract.

It can be concluded that:

- Employers seek to hire people using non-labor rather than labor contracts with the purpose of reducing payments due to the state budget, the National Social Security Institute, etc. In fact, they transfer the responsibility of paying to the individuals who are to be insured;

- Hiring people without a contract is used in cases of temporary or seasonal work. In this way a greater flexibility can be achieved. Also, if an individual turns out to be inappropriate for the job, it would be easier to dismiss him or her. And it is likely, if a person appears to be particularly valuable to the firm, after an initial trial period during which the employed has worked without a contract, to offer him or her a long-term labor contract.

Table 15

**Average Percentage of People Employed Without Contracts with respect to Total Employment to Firms Indicating a Specific Reason for Hiring on Non-labor Rather than Labor Contracts (%)**

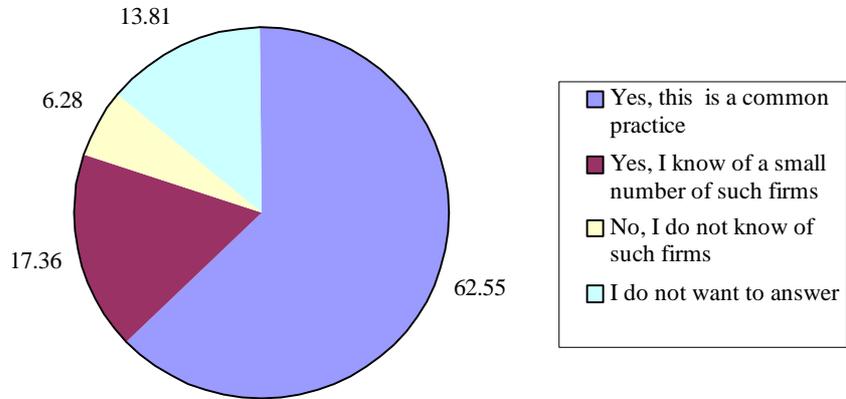
	1997	1998	1999
Because required payments related to the employees' salaries are high (insurance, etc.)	6.24	6.62	9.66
Because individuals with appropriate job qualifications prefer this type of contract	5.70	8.80	9.00
Because this type of contract allows a greater flexibility for human resource management	8.30	8.50	11.09
Because under the existing Labor Code, it is difficult to dismiss employees who do not have appropriate qualifications	7.89	8.99	13.32
Other	16.46	15.70	13.42

Another aspect of tax and insurance evasion is officially reporting salaries that are lower than that actually paid in order to reduce the burden of the various payroll taxes. Until the beginning of 1999, another way of achieving the same result was hiring on a non-labor contract, especially when the individuals who were to be hired had a labor contract with another employer and were, therefore, already insured.

The participants in the study were consecutively asked if they knew any companies where the officially declared salaries differed from the ones that were actually paid and if so, what was the approximate difference between them. Nearly two-thirds of those who answered the question (over 62.5%) believe that it is a common practice for most firms and another 17.4% think that there is such a phenomenon but few companies really practice it. Only 6.3% of the interviewed are of the opinion there is no such thing as paying more than the officially declared salaries or, at least, they do not know of such firms.

Figure 17

**Do You Know of Firms Where Official Wages Differ from Wages Paid in Reality?**



It can be concluded that not declaring total employees' salaries is much more common than hiring people without a contract, and it is a much more significant way of expanding the informal sector of the economy.

If we assume that the respondents have answered in reference to information about the concealed real salaries in firms similar to theirs (and indirectly in their own companies), there are no significant differences in the structure of the answers by sector, type of municipality and property. The percentage is highest in trade and construction enterprises, where it is quite commonly considered that salaries paid are different from officially stated salaries. The proportion of industrial firms among the participants who refused to answer this question is relatively high. This may be due either to lack of information or can be interpreted as an indication that in this sector the practice is fairly common.

**Table 16**

**Do You Know Any Firms Where the Officially Declared Salaries Differ from that which is Actually Paid (% of Responses)**

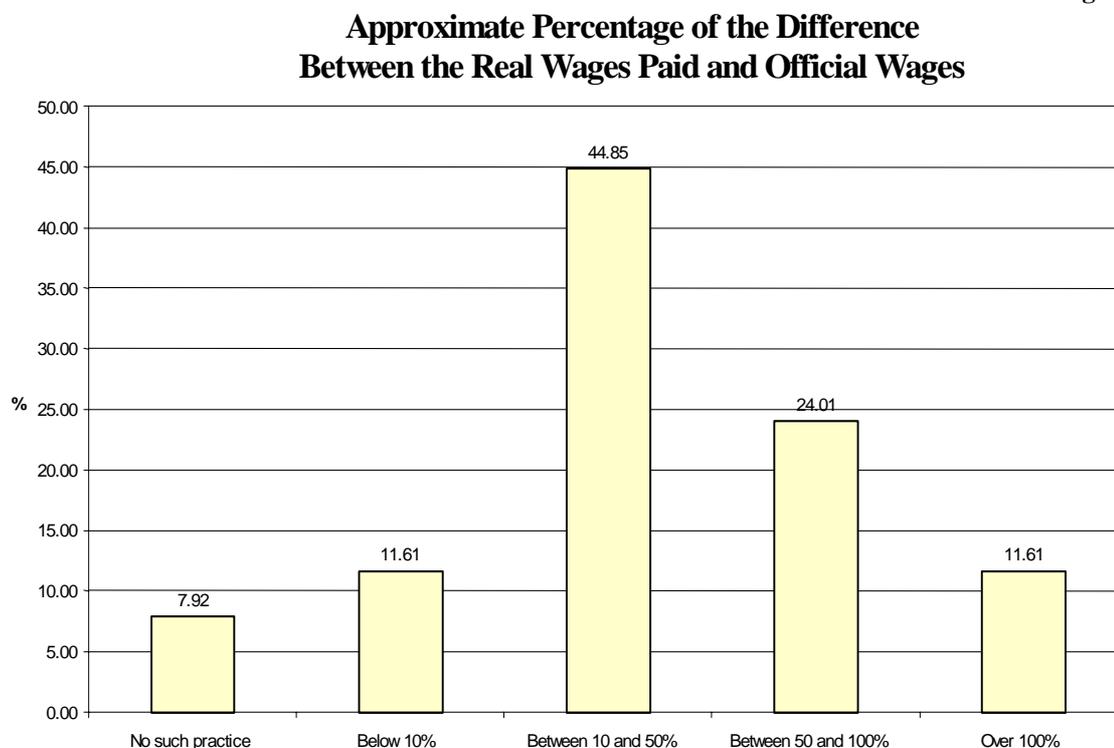
	Yes, it is a common practice	Yes, but in few firms	There are no such firms	I do not want to answer the question
Total	62.55	17.36	6.28	13.81
Including:				
Industry	62.32	15.94	3.62	18.12
Construction	66.67	20.51	2.56	10.26
Agriculture	54.88	26.83	6.10	12.20
Trade	69.29	12.86	7.14	10.71
Other services	56.96	16.46	11.39	15.19

According to the type of municipality:				
Sofia	54.29	15.71	11.43	18.57
Regional center	67.84	14.90	3.92	13.33
Small town	57.97	20.29	8.70	13.04
Village	57.14	23.81	7.14	11.90
According to the type of property:				
State enterprises	50.00	31.25	12.50	6.25
Private firms	64.34	15.90	5.54	14.22
Cooperatives	51.06	25.53	10.64	12.77

Note that in the bigger cities (with the exception of Sofia) the underreporting of the salaries actually paid is much more common than it is in the other municipalities. Also, the proportion of those who have answered that there are no such firms is only 3.9% in the regional centers, while in the other groups of enterprises it is higher, and for the companies in Sofia it is 11.4%.

A relatively high percentage of the private enterprise firms - 64.3% - also think that actual salaries are higher than those reported. This is also the group where the smallest number of the firms answered that there is no such phenomenon in practice – about half as many as in the other groups of companies. It can be assumed that the private firms, to a greater extent, practice declaring smaller salaries than that which is actually paid in order to evade payments to state authorities.

Figure 18



The respondents who expressed the opinion that there is such a thing as declaring lower salaries than those actually paid were asked the difference measured in minimum

salaries. Almost half answered that the salaries actually paid were higher than those declared by 10% to 50%. In the opinion of those interviewed, the salaries actually paid were higher than those officially declared by about 46%. In other words, if the average monthly salary in mid-2000 was around 230 BGN according to the National Statistical Institute, then, according to the answers of those interviewed, the monthly salary actually paid was about 350 BGN.

Table 17

**Average Monthly Salary in the Economy for 1999  
by sector (preliminary data)**

	Average Salary for 1999	Difference between Actual and Official Salaries	Actual Salary
	BGN	%	BGN
Industry	307.81	52.13	468.27
Construction	192.37	58.68	305.25
Agriculture	177.74	35.48	240.80
Trade	171.05	47.07	251.56
Other services	211.32	37.14	289.80
Total:	205.05	45.98	299.33

Source: NSI, Firms Survey

The surplus of actual over official salary varies by groups of firms. This difference is the greatest for construction and the industrial sectors, where the actual salaries are higher than declared by 59% and 52% respectively, and the difference is the smallest in services (not including trade) and agricultural sectors where the spread between actual and official salaries is 37% and 35%, respectively.

Salaries registered by the NSI for the industrial sector are 73% higher than those for the agricultural sector. At the same time, the surplus of salary actually paid according to the answers of the industrial firms is 47% higher than is the estimate of the agricultural enterprises. If we assume that all those interviewed have answered mostly on the basis of their own experience and the practices of firms similar to theirs, then it appears that the actual salary in the industry is approximately two times higher (about 94%) than that for the agricultural sector.

According to data reported, the average salary in construction is 6% lower than the average for the country, and 9% lower than other services (except for trade), whereas the salary actually paid for construction is the second highest in the country and is 2% greater than the average salary.

Analyzed according to municipality, the difference between the two types of salaries decreases as the town size decreases. It is largest for Sofia and the regional centers where the difference reaches 50-51%; in the small towns it is around 42%; and in the villages it is only 31%. According to data from the NSI, higher salaries are generally paid in the larger municipalities.

Figure 19

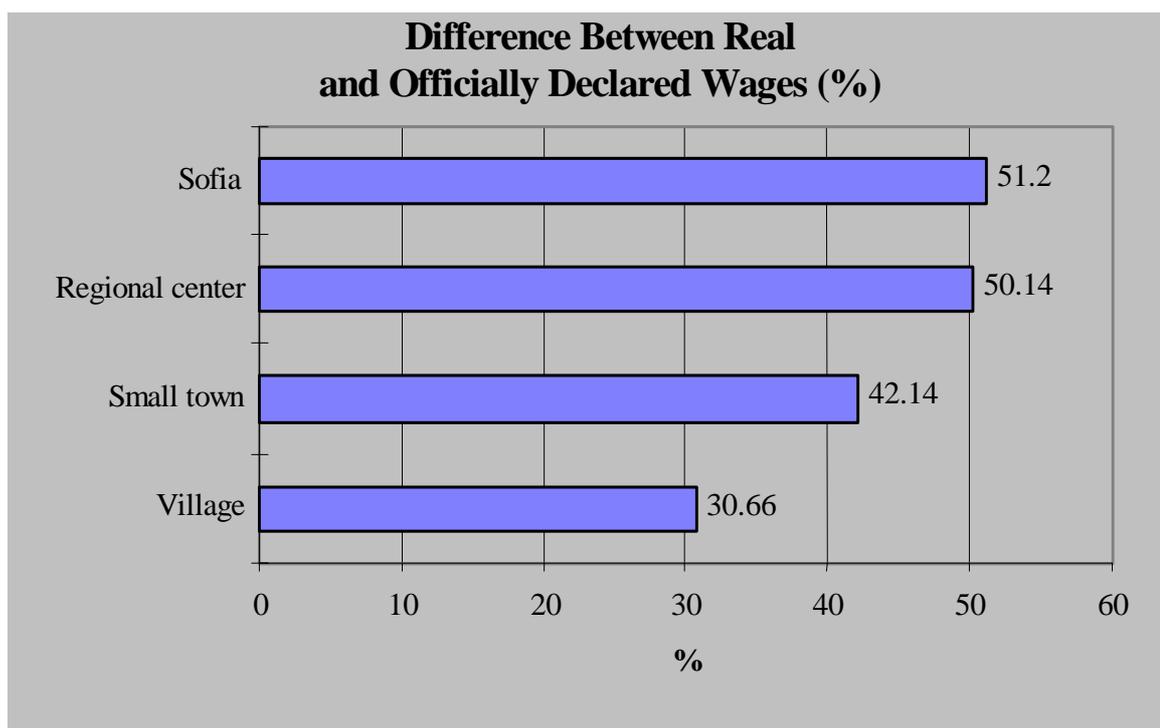


Table 18

**Average Monthly Salary and the Surplus of the Actual Over Official Salary  
by sector for 1999 (preliminary data)**

	Average salary for 1999	Difference between actual and declared salary	Actual salary
	BGN	%	BGN
State firms	221.28	35.83	300.57
Private enterprises	183.19	48.33	271.72
Cooperatives		29.75	
Total	205.05	45.98	299.33

Source: NSI - Firms Survey

As expected, private firms taking part in the survey shared the opinion that the salaries actually paid were much higher than those in the state enterprises. Moreover, the state enterprises estimated the difference as being larger in comparison to the cooperatives in the survey. It can be presumed that state enterprises also under report salaries; this is, however, to a lesser degree than private enterprises. The fact that state firms do not hire people without a contract must be taken into consideration. Hence, even managers of state enterprises are probably trying to cut payments because of insurance funding by declaring lower than actual salaries instead of using non-labor contracts or no agreements at all.

The data provided by the NSI shows that the proportion of salary in total employee compensation (here we include the salary as well as all additional payments set by the Labor

Code, insurance payments, etc.) was around 71% in 1997 and 1998. Compensation for employees was 5,900 and 8,500 billion BGN respectively for 1997 and 1998. Let us assume that participants in the survey have correctly evaluated the difference between registered and actually paid salaries (approximately 46%). Then the compensations that were, in reality, paid would be 7,800 and 8,500 billion BGN respectively for 1997 and 1998. If we presume that the salary-to-compensation ratio does not change significantly if firms declare salaries actually paid, then the enterprises' labor expenses would be 8,600 and 12,400 billion BGN for 1997 and 1998, respectively.

**Table 18**

**Compensations for Employees and Salaries in 1997 and 1998  
(million BGN)**

	1997	1998
Salary	4.22	6.00
Other payments	1.67	2.47
Compensation to employees	5.89	8.47
Salary actually paid <sup>27</sup>	6.15	8.77
Other payments	1.67	2.47
Compensations actually paid	7.82	11.24
Outstanding compensations due to employees <sup>28</sup>	8.59	12.37

Source: NSI, Basic macroeconomic variables '98 - NSI, p. 81-82.

Therefore, the underreporting of approximately one-third of real salaries brings about 10% savings in labor costs for employers, which is a considerable incentive for misrepresentation of the salaries actually paid to the employees.

If the assumptions made in Table 18 are correct, then the firms do not, in fact, declare 33% of enterprise income allocated for labor costs. Moreover, we have made the conclusion that about 2.5% - 3% of the employees work on no contract at all, and therefore the costs of their labor for the enterprises is either not declared or not reported as a newly created revenue. It can, therefore, be concluded that most probably firms hide around 34%-35% of income which is actually used to pay their employees.

## V. CONCLUSIONS

The research on the shadow economy using the physical input method indicates that the relative proportion of the shadow economy from the official economy has fluctuated between 25% and 37% of GDP over the 1989-1998 period. If we use an assumption of 30% SE in 1989, the SE economy in 1998 as a proportion of official GDP is estimated to be 22%. The absolute peaks of the shadow activity are calculated for 1990 (32.2%) and 1996 (34.4%). We observed a declining trend since 1996 in the relative proportion of the shadow economy. This is not surprising given the fact that the currency board's introduction in mid-1997

<sup>27</sup> The NSI data for salaries is increased by 46%.

<sup>28</sup> Insurance and other payments obtained from NSI data have been indexed to estimate actual salaries.

marked a steady rise in tax revenues to GDP. The high inflation period of 1990-1995 and the hyperinflation in 1996 and the early months of 1997 boosted the nominal tax revenues at a much faster rate than social compensations, thus creating strong incentives for households and businesses to escape from the official economy. With macroeconomic stabilization and the accompanying price and trade liberalization, the shadow economy has shrunk. The process, however, succeeded only partially, as the administrative and the tax burdens remain the main influence for business to operate in the informal sector.

Examining energy use, rather than relative proportions, is basically a good tool for assessing the dynamics and trends of shadow activities. The base-year relative proportion must always be given as an external value for the model, and the only way to assess this value is the micro approach. The physical approach also measures the final results, but reveals nothing about the factors that affect the shadow economy. A survey approach to the microenvironment represents the only tool that can unveil the complete picture. We divide the conclusions of our micro research into the following sections:

### **Firms' performance and development**

- Financial statements of the enterprises are relatively stable, but firms with high sales volumes demonstrate better profitability and stronger growth. The companies with an annual turnover above BGN 200,000 are the main contributors to growth in the economy, while SMEs experience a serious burden that restricts their expansion.
- The bank and non-bank financial intermediation is low, and personal savings are the main source of start up capital;
- Collateral requirements, the complicated procedures for receiving a bank credit, lack of business history, and high interest rates are the most commonly cited obstacles to receiving bank credits;
- Businesses state that major barriers to business expansions are: tax burden, insufficient financing, complicated and unpredictable legislation and inefficient regulation that impedes the entry of SMEs;
- Businesses incur significant losses, measured by the opportunity cost of the time spend for obtaining licenses or/and permits (an average of 4-5 days per month).

### **Estimation of the effect of tax and insurance burden on the shadow economy**

- High tax rates and social insurance payroll taxes are the major barriers to the development of business;
- Tax administration has a lesser effect in the opinion of those interviewed, but the time spent solving problems with taxes, local fees and social contributions is still significant - 7.5 days per month or about a third of working hours;
- VAT and social insurance payments are most frequently avoided by businessmen;

- The shadow economy is quite evenly distributed among the sectors studied in the survey;
- An average of 35.5% of the taxes due are avoided or evaded, which amounts to some 33% of GDP, which is a huge resource that could potentially be used to lower the tax burden without causing a fatal reduction of fiscal revenues.

### **Labor market**

- The proportion of those employed without a contract in trade, agriculture, construction (mainly for seasonal and temporary work) is the most widespread form of shadow activity in the labor market;
- Most of the companies register only a small proportion of the wages actually paid in order to avoid social security contributions. There is a large deviation among actual salaries, reported in industry, agriculture, construction, trade and service firms.
- The firms hide about 34%-35% of income allocated to labor compensation.

Cash transactions and resistance to requirements for proof of money origin are indicators that indirectly show the large spread of the shadow. Screening the respondents, we estimated that about 70% of all transactions are conducted in cash. Most of the companies have some experience in the shadow economy. Quantitative indicators composed by integrating the different responses and weighed by the number received, highlighted the following factors that motivate shadow economy activity: high tax and social insurance (77.8%); need to prove the origin of money (56%); difference between actual and reported salaries; avoidance of customs duties (42.5%), and licensing requirements (40.8%).

To a large extent, the research confirms Feige's concept that shadow activities are a form of non-compliance with excessive state regulations concerning licenses and permits, and the tax and social security systems.

Summarizing the results of the research, the following issues should be considered by policy makers if they want to eliminate or minimize the shadow economy and improve the business environment:

- License and permit requirements;
- Level of tax and social insurance burden;
- Legislation related to entry and exit of businesses;
- Institutional capacity and enforcement of laws;
- Lack of broader public control over the public administration and institutions;
- Corruption and red tape.

Finally, the shadow economy reduces the overall efficiency of the economy, as businesses are concentrated on efforts to avoid the administrative burden rather than on increasing productivity. Companies engaging in shadow activities also have to refrain from

some public and private services (e.g. bank transactions). This worsens the economic competitiveness that is crucial for a small export-oriented country like Bulgaria.

## RECOMMENDATIONS

Policy makers at all levels of state administration have to solve the problems of the shadow economy through decisions and measures designed to bring results in the long run. In that context, the natural political contradiction between the short-term pre-election period and the long-term benefits should be neglected. Concrete decisions should focus on efforts to:

- Improve the business environment - the number of licenses and permits should be reduced; and in cases where this is not possible, their implementation should be removed from the discretion of the ruling bodies;
- Reduce the tax burden through lower tax rates and speed up VAT reimbursements;
- Upgrade the institutional and the administrative capacity that will augment efficient and timely enforcement of laws;
- Enhance transparency of rules and regulations as a way of diminishing the possibility for rent seeking;
- Create conditions for effective citizens' control over the activities of state institutions and local authorities.