

Tax Compliance Costs of Companies in Croatia¹

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Abstract

The paper measures the tax compliance costs of companies in Croatia for the period 2001/2002. The research was carried out by an interview survey (face to face).

Although internal labour time costs are in general predominant, the percentage of non-labour internal costs is also substantial. This suggests that these costs should not be omitted from this type of research. With respect to type of tax VAT is in first place in the structure of tax compliance costs.

The percentage of aggregate tax compliance costs in GDP is around 1.2 per cent, which is not extremely high. The same can be said for the percentage of different taxes in the relevant tax revenues.

Key words: *compliance costs of taxation, profit tax, companies, VAT, social security contributions, wage tax, Croatia*

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Introduction

Compliance costs of taxation have, in the last twenty-five years, been the subject of growing interest, especially in developed countries – on the part of both academics and governments. Still, research of this kind is very rare among the

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transition countries, mostly because it requires complicated surveys involving the collection of large amounts of data not available from published sources, but also because this problem has been neglected for a long time.²

This paper focuses on the tax compliance costs (of all taxes except customs and excise duties) of the business units that pay profit tax.³

Unlike some previous research about the compliance costs of taxation that have conveyed partial surveys for different types of taxes,⁴ we decided to undertake synthetic research that encompasses all the taxes at the relevant business level.⁵ Furthermore, it has been recognized (International Tax Compliance Costs Symposium, 2000) that it is difficult to state the compliance costs of each type of tax precisely. Even if it were possible, such a technique (aggregating the incremental compliance costs of different taxes) could underestimate the total compliance costs of business taxes (Sanford, 1995). That is why businesses in our survey are asked about the compliance costs of all the taxes together⁶ and after that about

² The comparative study of three countries (Institute for Private Enterprise and Democracy, Poland; Institute for Market Economics, Bulgaria; Institute for Liberal Studies, Slovakia, 1998) should be mentioned here as treating the problem of the compliance costs only implicitly (without measuring them). This problem has been recognized and measured in Slovenia (Klun, 2002, 2004) as well as in Czech Republic (Vitek et al., 2003). The reasons for the lack of such research in Croatia are explained in Ott and Bajo (2001, p. 230 – 235).

³ The term «corporate income tax» is not completely applicable, because in Croatia not only corporations, but also part of the non-corporate sector (companies with unlimited tax liability) pays profit tax.

⁴ For instance Sandford, Godwin, Hardwick and Butterworth, 1981; Sandford, Godwin and Hardwick, 1989; Bannock and Albach, 1987 (synthesis in Bannock, 2001); Pope, Fayle and Chen, 1994, Pope, 1995, Collard, Godwin, 1999; Klun, 2002. This partial surveys often encompassed all (or only some) taxes and the entire amount of (business) tax compliance costs was obtained by adding all the costs together (for instance Sandford, Godwin and Hardwick, 1989; Pope, 1995). Research in selected Asian economies (Ariff, 2001) falls into this category too (covers only corporate income tax), but this choice is logically (objectively) caused by the specific structure of these tax systems.

⁵ As for instance in Allers, 1994; Evans, Ritchie, Tran-Nam, Walpole, 1997, OECD, 2001 (however, this study excluded both enterprises without any employees and those with 500 or more employees) and in some way also in Sandford and Hasseldine, 1992 (acc to Hasseldine, 1995). This last research lies in fact «in between» the two stated approaches, because the surveys were synthetic. The first questionnaire covered PAYE, various other withholding taxes and Fringe Benefit Tax and the second one covered both business income tax as well as VAT. Both surveys were an integral part of the same research and the second questionnaire was sent a few weeks after the first one. Care was taken to make sure that the same taxpayers did not receive both questionnaires (the taxpayers who received the first questionnaire were eliminated from the database). The distribution of the material into two different questionnaires was done deliberately in order to avoid one extremely lengthy questionnaire.

The same is only partially true of the research about the effects of the tax reform in Sweden on the compliance costs of taxation (Malmer, 1995), where the same questionnaire encompassed VAT and preliminary tax and payroll charges (income tax was missing).

⁶ As in OECD, 2001, but that study did not try to obtain data about the tax structure of compliance costs.

the structure of all the costs concerning the different types of taxes (profit tax, VAT, personal income taxes on wages and social security contributions).⁷

As usual, compliance costs are defined as the costs incurred by taxpayers in meeting the requirements laid on them by the law and revenue authorities, over and above the actual payment of tax and over and above any distortion costs inherent in the nature of the tax (Sandford, 1995, p. 1). They entail labour costs (of owner(s), managers, unpaid help, internal bookkeeper/accountant or other employee who handles taxes), external costs (of bookkeeping/accounting office, some other company connected with our company, tax advice from auditing firms or some other firms) as well as some other internal non-labour costs (software and hardware (additional), forms and stationery, postage and telephone, literature and seminars, traveling costs, court costs).

Tax planning is included as an inherent part of tax compliance costs. This research did not attempt to measure psychological costs. No attempt has been made to distinguish „regular“ and „initial“ („temporary“ or „commencement“) costs, not only because this would be extremely hard for the taxpayers, but also because tax changes are almost „regular“ in Croatia.

In order to make it easier for respondents they were asked about the relevant tax compliance costs for the last 12 months. The size data (number of employees) also related to the last 12 months.⁸ Thus, the research covers tax compliance costs from around the second half of the 2001 and the first half of 2002.

Due to the lack of relevant data and the fact that most of the companies do not claim tax refunds, rather converting them into advance payments of future tax liabilities, the research comprises only „social“ or „gross“ compliance costs.

International comparisons of tax compliance costs are „fraught with difficulties“ (Evans et al., 1997, p. 58) and are „more likely to mislead than to enlighten“ (Sandford, 1995, p. 405) because of the numerous reasons such as coverage of business units, taxes and costs, differences in methodologies, etc.⁹ Therefore we would like to point out that comparison of some results gained in our research with the results of other authors should be interpreted with caution, and

⁷ As contrasted with the technique where taxpayers are asked about the different sorts of compliance costs (labour costs, external costs...) about the amount related to each type of tax (with the ultimate aggregation of all the components).

Something similar is employed in Collard and Godwin (1999, Appendix), where a checking question concerning „reported“ compliance costs of only PAYE and National Insurance (entailing all the sorts of compliance costs) was put and after that its division concerning PAYE, NICs and SSP/SMP.

⁸ There is some imperfection here concerning the stratification and weighting (as well gross-up) which were effected by the 2001 data (businesses that have paid profit tax classified by number of employees), but it was impossible to do it otherwise.

⁹ For the list of reasons why attempts at comparison may not be successful see: Evans et al. 1997, p. 58.

hence we explained our methodology in detail and tried to compare it with the methodological experience of other studies.

The research has tried to test several hypotheses:

- Tax compliance costs are regressive.
- Smaller companies rely heavily on external professional accountants; as the size of business increases, they appear to spend proportionately more money expanding internal resources for tax compliance.
- Labour costs are the most important part of tax compliance costs.
- VAT is responsible for the bulk of compliance costs.
- The share of tax compliance costs in the relevant tax revenues is relatively high.

The paper is divided in two parts. In the first part, methodological elements about the survey that are not already mentioned in the introductory part are explained and in the second part the results are analyzed.

1. Survey and Sample

The research was carried out by face-to-face interviews conducted by a commercial polling agency (PULS). A postal survey, used by most tax compliance costs researchers (especially where business units were investigated¹⁰), was rejected because of the very small response rate in Croatia and because of the very high postal costs. Furthermore, interviews guarantee a better understanding of the questions and more reliable results. Unfortunately, they are, of course, more expensive.

Following the experience of other researchers as well as relevant recommendations (Sandford, 1995, p. 375 – 401), a couple of accounting offices, company owners and a representative of an accounting union were engaged as a consulting team to correct the questionnaire and help us to test it on some relevant business units („a pilot“).¹¹ The questionnaire was accompanied by a covering letter explaining the necessity of the research and its benefit to the taxpayers.

¹⁰ Still, the tax compliance costs survey in Netherlands (Allers, 1994) used face to face interviews, as well as survey in the Czech Republic (Vitek et al., 2003), while in Slovenia, the survey was also conducted by using interviews also after the postal survey (Klun, 2004).

¹¹ The „pilot“ confirmed our belief that taxpayers are not aware of what is meant by tax compliance costs and that itemizing them was the proper solution. It changed our first draft of the questionnaire by some questions that were originally planned to be put to the owner being redirected to the person who handles tax work (in some cases, of course, it could be owner too). The interviewers were instructed, with respect to many of the other questions for owners, to ask the person who handles taxes, if the owner could not answer them. The consulting team warned us in general that the owners are more interested in the amount of taxes they pay, and do not have great insight into tax compliance activities and specific tax issues (unless they handle taxes on their own, which is rarely the case).

The instructions for interviewers were added to the questionnaire and a seminar was held for them.

It was planned to interview 400 companies out of 70,179, which amounts around of 0.57 per cent of the total population. The sample was stratified according to size (number of employees) and the data (including addresses) were obtained through the Tax Administration.

The start of the research was May 2002, because companies have to submit their profit tax return as well as all the accounting reports for the last year by the end of the April. The interview process went off with a lot of difficulties. The responding taxpayers complained that there it had been very hard for them to assess the number of hours spent on tax matters, there were suspicions concerning the promised anonymity, complained that it took too long...¹² The biggest problem for the interviewers in the cases where the entrepreneur had an external accounting/bookkeeping office was to convince both sides to cooperate.¹³ Furthermore, often, even inside the business, more than one person should have been interviewed (the owner and an other person who handles taxes). We took a break in August and continued the interviews in September and October. We were running out of time, had exhausted all the addresses obtained from the Tax Administration (1200) and succeeded with great difficulty in obtaining 339 responses (0.48 per cent of the total population, which is relatively high for this type of research¹⁴). Although the absolute sample size definitely classifies this research as a small-scale one (in contrast to most other previous surveys¹⁵), it has been lately confirmed, that a small-scale research can be almost as reliable as a large-scale one (Bannock, 2001).

The structure of the sample according to the size (number of employees) and the structure of total population of 70,179 businesses is presented in Table 1.

The sample was weighted to reflect the population structure by size, since smaller companies were strongly underrepresented. After weighting, the share of companies which are exempt from VAT in the sample turned out to be the same as in the entire population (around 7 per cent), which made the sample representative in that way too.

¹² So the last questionnaire question concerning different taxes paid, was dropped.

¹³ Following the experience of the disadvantages of previous surveys (in: Sandford, 1995), we decided that it would be impossible for the entrepreneur (or some of his employees) to assess the part of the external fees that relates to tax work (including tax structure), as well as to answer some other qualitative tax compliance questions (the same was confirmed by our consulting team). So, we decided that if an external accounting/bookkeeping office was engaged (or some other company connected with the company: parent-subsidiary relation) we would put this question, as well as other tax related questions, to that office.

¹⁴ For the international comparison see Klun (2002, p. 779).

¹⁵ Most of them had sample size above 1,000 (for the comparable data and further information about large-scale surveys see for instance: Evans et al., 1997, p. 72; Sandford, 1995, p. 378).

Table 1

Structure of sample and total population in terms of number of employees

Number of employees	Sample (N)	Sample (per cent)	Total population in per cent
Up to 2	68	20	58
3 – 5	60	18	20
6 – 20	107	31	15
21 – 250	77	23	6
>250	27	8	1
Total	339	100	100(N = 70.179)

Source: Tax Administration of Croatia (database) and our survey.

The sample was not weighted by sector of activity, because (unlike in some other studies; for instance Allers, 1994; Sandford et al., 1989) no positive relationship concerning tax compliance costs has been established.¹⁶

2. Average Tax Compliance Costs of Company

Tax compliance costs of companies are a synthetic term, comprising the costs of all types of taxes analyzed (profit tax, VAT, wage taxes and social security contributions, other taxes¹⁷), as well as different types of costs (internal labour costs, internal non-labour costs and external costs).

Concerning the internal labour costs, as suggested by Sandford (1995, p. 398), the value of working hour comprises, not only the „wage rate“, but also employer social security contributions. Unpaid help is valued at half of the hourly value of the owner (as in Allers, 1994, p. 12).

Concerning other internal (non-labour costs), we have decided to take some „intermediate approach“ between all-costs-inclusive approach (including overheads)¹⁸ and the one excluding such costs.¹⁹ It is also possible to ask the respondents about «any other costs» besides labour costs directing the attention of the respondent to the marginal or direct costs in this respect²⁰ or to include only some costs.²¹

¹⁶ This is maybe due to the sample being too small, but the result was also expected, because it is normal in Croatia to register for all the economic activities and even later not to concentrate only on one, but to perform other activities besides the «main one», even on a large scale.

¹⁷ Except customs and excise duties, which were encompassed by other parts of the research.

¹⁸ For instance Blumenthal's and Slemrod's questionnaire about compliance costs of U. S. corporate income tax, 1992; Allers's questionnaire from 1990; Collard and Godwin, 1999; UK compliance costs of VAT research from 2001, HM Customs and Excise, BMRB.

¹⁹ For instance in Evans, et al., 1997; Sandford's and Hasseldine's questionnaire about GST and Business Income Tax in the 1992 research.

²⁰ For instance Pope's et al. questionnaire about company income tax from 1992 (1994, Appendix A, p. 105); Sandford's et al. questionnaires (1989, Appendices C and D, p. 253 and 265).

²¹ Software and hardware (for instance OECD questionnaire, 2001), but it seems that this survey failed to capture these costs properly.

So, we did not include „pure“ overhead costs such as office space, heating, lighting, which would mostly exist even without taxes. The same holds even for hardware (compute) already bought and used for all other tasks inside the business. But if computer and especially software is bought mostly because of/especially for tax work then the yearly depreciation (linear and not for instance immediate write-off, which is also possible in Croatia) could be included. Other costs include software maintenance, stationery, forms, postage, telephone, seminars, travel costs, court (litigation) costs... We did not bother taxpayers with the detailed specification of all these costs one by one. Instead of that, we opted for one „catch-all“ question concerning other internal non-labour costs giving a few examples of such costs.²²

External fees in our research comprise part of fees to accounting offices (or related companies that do the accounting work) that relates to tax work,²³ possible additional fees for special tax advice of, for instance, auditing firms or (other) accounting offices (in the year 2001/2002 there were hardly any approved tax advisers in Croatia).

Since the distributions of costs were not normal, it was concluded that it would be inappropriate to implement the mean as a measure of average. So, the logarithm was used to achieve normality, and after that, the mean was calculated, and then recalculated to get to a more reliable average measure.

The mean of total tax compliance cost (TCC) by number of employees as well as the mean of tax compliance costs per employee²⁴ are presented in the Table 2.

The rise of average compliance costs with the rise of the size of company proves the validity of our results.

As expected from all previous research into the subject total compliance costs proved to be regressive²⁵ measured as costs per employee, but also as costs per

²² Similar measurement method was applied in the recent surveys in one transition country – Slovenia, where non-labour compliance costs include mostly software support, forms, postage, etc. (Klun, 2002 and 2004).

²³ External fees for tax compliance work were calculated by asking the owner/manager or some other internal person about the fee paid in the past 12 months for the services of the accounting office or related company (which comprises other accounting work too) and then asking this external accounting office or related company to estimate how much of the stated amount relates to the tax compliance work. It turned out that the average share of tax work in the fee was around 34 per cent.

²⁴ Costs per employee were calculated for each company and then the average for every stratum (class size) as well as for total population was established.

²⁵ The regressiveness has become a “law” in the tax compliance costs research. As Sandford (1995, p. 4 – 5) says: “Tax compliance costs have undesirable distributional effects. They are capricious in their incidence and, especially for businesses, regressive – i. e. falling with disproportionate severity on small firms. Moreover this regressiveness is very pronounced...”

unit of profit or unit of turnover. The average is measured as mean of compliance costs per employee/unit of profit/unit of turnover of each business in the stratum and for all businesses together.

Table 2

Average tax compliance costs (TCC) (mean) by number of employees and average costs per employee, unit of profit and unit of turnover (in Croatian kunas (HRK²⁶))

Number of employees	TCC (mean)	TCC per employee (mean)	TCC per unit of profit*(mean)	TCC per unit of turnover (mean)
up to 2	19,824.34	16,641.96	0.7421	0.0402
3 – 5	30,217.11	8,033.79	0.4159	0.0283
6 – 20	45,063.22	4,715.68	0.1844	0.0105
21 – 250	80,686.39	1,168.64	0.1198	0.0047
More than 250	120,130.59	267.08	0.0183	0.0009
Total	27,112.77	9,988.55	0.5861	0.0321

* Only for companies that have taxable profit.

Source: The survey.

As already known, this regressive impact is the result of the fixed element inherent in compliance costs. This causes them to fall proportionally more heavily on small firms. The tax compliance costs per employee of the smallest companies are 62 times higher than those of firms with 250 and more employees, cost per unit of profit 40 times higher and costs per unit of turnover 45 times higher.

The total for TCC per unit of taxable turnover could be compared only roughly and with a great precaution (taking into account the stated methodological differences) to the existing results of similar surveys. It is astonishing that the same percentage as in Croatia (3.2 per cent) was calculated for the companies in neighboring Slovenia (Klun, 2004, p. 29 – 9).²⁷

The study in the Netherlands, which covered all business units, has significantly lower share – even the smallest business units, which share is the highest, have the share of only 1.7 per cent (Allers, 1994, p. 130). Even the data for the United Kingdom (Sandford et al., 1989, p.199) seem to be more favourable – the share for small companies is 3.66 per cent, for medium companies 0.62 and for large companies 0.17.²⁸

²⁶ 1 HRK = 0.14 EUR; 0.16 USD

²⁷ Recalculation of the original data made by the author.

²⁸ The percentage for Croatia (3.2) could be expected to be relatively above this one for the OECD. The unweighted average (mean) of all administrative (tax, employment and environmental protection) regulations for 10 OECD countries is ca 4 per cent (OECD, 2001, p. 28). Since taxes (without taxes related to employees) amount to ca one third of these costs, even the addition of the tax costs related to employees does not seem to rise the share significantly above 50 per cent (2 per cent of turnover).

3. The Structure of Total Tax Compliance Costs by Type of Costs

Internal labour costs are the most important part of tax compliance costs. They are usually presented in hours. In calculating the average we wanted to get really representative values for businesses handling taxes and not just pure statistics, so we have taken into account only businesses where the relevant person exists/handles taxes.²⁹

First, it is clear that the hours of persons involved generally rise as the size of the business rises, as expected.³⁰ The important exception from that trend is the last size class (companies with more than 250 employees).³¹ The result can be explained by the fact that the owners and/or managers are more inclined not to be so heavily involved in taxes³² and to leave specialized tax tasks to highly qualified and experienced accounting staff,³³ but also by their greater proficiency, better equipment... in general „economies of scale“ effect.

It can be seen that the percentage of owners/managers dealing with taxes shrinks, as expected, with the already mentioned exception for the last size stratum. This „involvement“ in taxes may range from doing all/part the tax work on their own or simply cooperating with others. It is obvious that concerning taxes owners and managers will cooperate enthusiastically with other internal as well external persons concerned as the company size rises.

The percentage of unpaid help diminishes as company size rises, as expected.

On the other hand, the percentage of businesses engaging their own employee(s) to handle tax work rises as the size rises, as expected, to 100 per cent for the last size class.

A full picture about the tax compliance costs structure can be seen from the following table.

Again, all the stated differences could be the result of the turnover being underreported in Croatia.

²⁹ So, for instance when talking about the average time spent by an unpaid helper, only businesses that have unpaid helpers are taken into account. Otherwise we would end with a lot of zeroes with no meaningful results.

Nevertheless, the full information about the meaning of the time costs of different subjects in the total compliance costs of the stratum as a whole can be obtained from Table 4.

³⁰ This can be seen also in similar research for Australia (Evans et al., 1997, p. 36 – 37).

³¹ As well as the use of unpaid help in the third size class, which is caused by the use of that help partially as supplementary source of tax work. The same development (decrease of the unpaid help at the end of the size scale) could be found at Evans et al. (1997, p. 37).

³² Here, the ownership and control are more divided, with the great dispersion of the former and managers are, of course, not so strongly interested in lowering the tax bill. Furthermore, the percentage of them engaged in taxes at all is much higher than for the two lower size classes, indicating a lot of smaller amount of hours, which leads to the lower average.

³³ The same decline in partner/director/trustee/owner time spent for large companies is found by Evans et al. (1997, p. 36).

Table 3

Time spent on tax compliance by different persons employed in company (hours)

Number of employees	Per cent* of companies having owners/ managers dealing with taxes	Average time spent by the owner/ manager	Per cent of businesses having unpaid help with taxes	Average time spend by unpaid helper(s)	Per cent of businesses having accounting (and other) personnel dealing with taxes	Average time spent by accounting (and other) personnel	Per cent of businesses having some internal person(s) dealing with taxes	Average total time spent
Up to 2	68	277.15	7	99.00	37	477.68	87	437.14
3 -- 5	57	274.71	6	144.00	62	536.35	85	716.22
6 -- 20	42	382.73	4	90.00	79	1 146.94	88	1 305.97
21 -- 250	20	448.87	—	—	91	2 835.41	92	3 376.99
>250	50	319.31	—	—	100	2 559.33	100	2 760.74
Total	59	291.47	6	107.74	52	910.08	87	818.31

* All businesses in relevant size stratum (class) = 100.

Source: The survey.

Table 4

The structure of tax compliance costs by types of costs (per cent)

Number of employees	Owner/manager (per cent)	Unpaid helper (per cent)	Other internal labour costs (per cent)	Other (non-labour) internal costs (per cent)	External costs (per cent)	Total (per cent)
Up to 2	17.46	0.39	18.45	47.95	15.75	100.00
3 -- 5	11.90	2.60	31.39	24.75	29.36	100.00
6 -- 20	6.95	0.97	40.58	37.55	13.95	100.00
21 -- 250	7.02	—	40.98	37.92	14.09	100.00
>250	1.96	—	62.00	32.65	3.39	100.00
Total	14.96	0.93	26.38	39.91	18.42	100.00

Source: The survey.

The percentage of time costs of the owner/manager shrinks as the size increases and the opposite trend is displayed concerning the costs of other employees that handle tax work (their share rises constantly). This was logically expected and also confirmed by the results of some earlier studies (for instance Allers, 1994, p. 129; Sandford et al., 1989, p. 84 and 198).

As already mentioned and explained, other internal labour costs (mostly „overheads“) are very difficult to measure. That is why a lot of studies from this field, especially the older ones (when there was almost no computerized evidence in companies) omitted or mostly omitted these costs.³⁴ In our opinion, these costs are too important to be omitted. Although they were explained to the taxpayers in detail, it seems that it was mostly the smallest entrepreneurs that overestimated these costs.

The share of external costs rises first tremendously as the result of a lot of owners in the second size class getting rid of tax work and giving it to the accounting offices and falls again in the third size class as a result of more internal human resources (accountants) being taken on for accounting and tax work. It is obviously extremely small in the last size class with the entire accounting (including tax) work being done inside the company and external sources being mostly used for specialized tax advising.

The international comparison of the structure of tax compliance costs by type of costs has to be taken with a great precaution, because of the differences in time valuation as well as scope (or even existence) of other non-labour costs. Nevertheless, some rough comparisons could be made. Comparison with Slovenia reveals that in Slovenia labour and external costs have higher percentage and non-labour costs the smaller one (Klun, 2004, p. 29 – 8).³⁵ In both studies the share of internal labour costs is close on double the share of external costs. The same is established for Australia (Evans et al., 1997, p. 54) and the Netherlands (Allers, 1994, p. 129).³⁶ The further breakdown of the internal labour costs shows that in some other surveys costs of accounting and other internal staff have also bigger share than the one of the owners/managers in general (total)³⁷ (for instance Pope et al., 1994, p. 69; Allers, 1994, p. 129, Sandford et al. 1989, p. 85 and 140³⁸).

³⁴ Sandford et al., 1981; Sandford et al., 1989; Evans et al., 1997; even the OECD study (OECD, 2001) tried to capture the costs of software and hardware, but omitted them in the end.

³⁵ The percentages for Slovenia are: 57.8 per cent for labour costs; 26.1 per cent for consultancy (external costs) and 16.1 per cent for other expenses.

³⁶ Not only do these surveys cover companies, but all business taxpayers, as well. On the other hand, the OECD study, which concentrated only on SMEs (up to 500 employees) and excluded enterprises with no employees, established for most countries higher share for external costs (OECD, 2001, p. 52).

³⁷ But, as already said, this changes along the size scale.

4. Aggregate Costs at the State Level and their Composition by Type of Tax

We have calculated the aggregate tax compliance costs of business units that pay profit tax (also called „social“³⁹ or „gross“ tax compliance costs) in Croatia by using the classic gross-up method. Already stated costs per company of different size classes in previous chapters are calculated for the entire size class (all companies in that class) and added together to get the total at the state level.

The synthetic results of our research (our calculation of aggregate costs at the state level and their composition by type of tax level) are shown in Table 5.

Table 5

Aggregate yearly tax compliance costs of business units that pay profit tax in Croatia 2001/2002 in millions of HRK

Number of employees	TCC in Croatia for all taxes (100 per cent)	TCC of profit tax (per cent)	TCC of VAT (per cent)	TCC of wage tax* and social security contributions (per cent)	TCC of other taxes (per cent)
up to 2	760.39	24.15	42.42	23.67	9.75
3 – 5	431.69	18.85	46.75	28.35	6.05
6 – 20	472.85	20.40	46.86	24.14	8.60
21 – 250	324.92	10.59	55.95	27.88	5.59
>250	48.75	10.49	65.01	22.00	2.50
Total	2,038.60	19.31	47.49	25.34	7.86
		393.65**	968.13	516.58	160.23

* Personal income tax on wages and local surtax on wages and social security contributions.

**Absolute numbers in bold (last row).

Source: The survey.

It may be surprising that one third of all costs is borne by the companies with 2 and fewer employees, but this is maybe less surprising taking into consideration that they comprise almost 60 per cent of population (see Table 1). Furthermore, more than half of the tax compliance costs are borne by companies with 5 and fewer employees, which amount to almost 80 per cent of the population⁴⁰ (Table 1). The very small share of tax compliance costs of companies with more than 250 employees (2.39 per cent) is the result of small number of these companies – only 419 – 0.49 per cent (rounded to 1 per cent in the Table 1), but also of the fact that maybe only 27 companies in this stratum were too little to be representative concerning the huge size dispersion.

³⁸ Concerning Sandfords et al. surveys for the UK this is true for wage taxes and corporate income tax, but not for the VAT, where, surprisingly, vice versa is present.

³⁹ As pointed out in Evans et. al., 1997 and Tran-Nam et. al., 2000; but without including managerial benefits to taxpayers, which were impossible to measure

⁴⁰ The fact that bulk of the tax compliance costs is born by the smallest companies is consistent with all the previous researches of that kind.

VAT is in first place in the cost structure by tax type followed by wage taxes (including social security contributions) and profit tax. The first place for VAT is established in some previous studies in tax compliance costs of business units of the countries that had VAT in their tax structure (UK: Sandford, et al., 1989, p. 80 – 92, 114 and 192; Germany: Tiebel (1986), acc. to Allers, 1994, p. 138; Slovenia: Klun, 2004, p. 29 – 8).⁴¹

The changes in tax structure by size classes build up an interesting picture. The share of compliance costs of profit tax declines, due to the profound fixed element of that tax. The share of compliance costs of VAT rises due to the rise in turnover being steeper than the rise in size class (measured by number of employees). The share of compliance costs of the wage taxes and social security contributions, which are in direct relationship to the size classes, is more or less constant.

The share of total aggregate tax compliance costs of business units that pay profit tax in GDP is around 1.2 per cent.⁴² This is not extremely high, but is still a large amount. The share for neighboring Slovenia is 1 per cent (Klun, 2004, p. 29 – 8).⁴³ It must be recalled that the share of business units that pay personal income tax in Croatia (103,451 business units) is around 0.81 per cent of GDP (Blažić, 2003, unpublished), and that neither amount includes customs and excises. The total percentage for business units (2.01 per cent of GDP) is also higher than in UK⁴⁴ and the Netherlands⁴⁵ and lower than in New Zealand⁴⁶ and probably Australia⁴⁷).

„Efficiency“ is usually assessed by the share of tax compliance costs in relevant revenues. For profit tax this percentage amounts to around 11.76 per cent. This is acceptable since it is somewhere close on the usual share in similar surveys,

⁴¹ On the other hand, in the Netherlands is VAT in the second place and wage taxes are in the first place (Allers, 1994, p. 124).

⁴² An alternative calculation with a „normal“ mean (based on the original data) results in the aggregate tax compliance cost for Croatia of 3,665.65 mil HRK (2,1 per cent of GDP), but this is exaggerated.

⁴³ Both studies exclude customs and excises, but Slovenian excludes also „other taxes“ (besides the mentioned ones). Still, the compliance costs of these „other taxes“ in Croatia comprise only 7 per cent of total tax compliance costs.

⁴⁴ All tax compliance costs (all taxpayers and taxes – except customs) are a little bit above 1 per cent (Sandford et al., 1989, p. 191 – 192). Aggregate compliance costs of UK businesses are estimated at ca 0.6 per cent of GDP (see also Allers, 1994, p. 139).

⁴⁵ Tax compliance costs for business are around 1.5 per cent of GDP (Allers, 1994, p. 124, 139, 178 and 187). They comprise also costs of customs and excise duties, but their share is very small (around 4 per cent in total business tax compliance costs).

⁴⁶ Tax compliance costs of business taxes are ca 2.5 per cent of GDP in New Zealand (Hasselaine, 1995, p. 131).

⁴⁷ The share for Australia is ca 1,95 per cent (authors recalculation into „gross“ or „social“ tax compliance costs based on Evans et al., 1997, p. 52). All federal taxes are here included (but state and local taxes excluded). This survey also excluded non-labour internal costs.

or better to say: even lower (see for instance international comparison in Evans et al., 1997, p. 76⁴⁸ and Vitek et al., 2003, p. 20⁴⁹). As can be seen further, it is higher than the shares for other taxes of Croatian companies. This is the result of the profit income tax rate being relatively low, numerous tax incentives being introduced (especially immediate write-off) and almost half of the companies having losses. It must be also borne in mind that a new profit tax act was recently introduced, featuring a completely new way of calculating profit tax.

The share of the tax compliance costs of VAT in the VAT revenues from businesses that pay profit tax⁵⁰ is around 4.47 per cent. This is a strong proof about the relative efficiency of the tax with respect to compliance costs involved at the company level. It is in accordance with the results of similar surveys.⁵¹ Nevertheless, it should be noted that this low share is influenced also by the relatively high standard VAT rate (22 per cent), with no reduced rates and only a very narrow application of the zero rate.

Since there is no separate evidence about the wage tax and employees' and employers' social security contributions for businesses that pay profit tax, a rough assessment was made according to the assessment of the number of employees employed in the analyzed sector. This share is around „only“ 2.9 per cent. This is in accordance with some similar surveys where these taxes are treated separately.⁵² Again this „efficiency“ is not the result of compliance costs being small,⁵³ but of revenues from wage taxes and especially social security contributions being extremely high.

Conclusion

The regressive effect of tax compliance costs is proven even in the case of Croatian companies, as expected. In the cost structure, the time cost is predominant in general, although the structure is changing across the size range (the

⁴⁸ The only exception in this comparison being UK with this share below 10 per cent (only 2.2 per cent). The share for Australia is 15.8 per cent and for New Zealand 19.6 per cent.

⁴⁹ On the other hand, this share is only 4 per cent in the Netherlands (Allers, 1994, p. 139).

⁵⁰ Assessed according to internal documentation of the Tax Administration. Data for 2002 assessed according to detailed breakdown of the data for 2001 (since such a breakdown does not exist for the 2002).

⁵¹ For instance this share was 3.69 per cent for Great Britain (Sandford et al., 1989, p. 192) and 6 per cent for the Netherlands (Allers, 1994, p. 139). On the other hand this share for Slovenia is even 17.5 per cent (Klun, 2004, p. 29 – 8), but only 1.9 for the Czech Republic (Vitek, 2003, p. 20),

⁵² 2.5 per cent for Australia, 1.9 per cent for New Zealand, but only 1 per cent for UK (Evans et al., 1997, p. 74) and 0.5 per cent for Slovenia (Klun, 2004, p. 29 – 8).

⁵³ The results of qualitative analysis suggested that the taxpayers complained mostly concerning this field of tax compliance (Dimitrić, unpublished).

percentage of time costs of the owner/manager shrinks as the size rises and the opposite trend is presented concerning the costs for other employees that handle the tax work).

The percentage of non-labour internal costs is substantial, suggesting that they should not be omitted from such a type of research.

Concerning the type of tax, VAT is in first place, followed by wage taxes including social security contributions.

The percentage of aggregate tax compliance costs in GDP is around 1.2 per cent, which is not extremely high. The same can be said for the percentage of different taxes in relevant tax revenues (4.47 per cent for VAT, 2.90 per cent for wage taxes including social security contributions, but even 11.76 per cent for profit tax). This indicates the need for a simplification of profit tax calculation. It should be better adjusted with the accounting system

The research turned out to be very exhausting, long lasting and complicated by institutional obstacles.

The relevant business population had no experience with studies of this type and was even reluctant to give some details, which exacerbated the complexity of the research.

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