

EVALUATION OF THE EFFECTIVENESS OF THE TAX COLLECTION - THE CASE OF THE CZECH CENTRAL AND LOCAL GOVERNMENTS¹

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Introduction

The measurement of the administrative cost associated with tax system is a part of theory and policy of taxation and enables us to see a public finance from the angle of positive economy and makes the decision concerning taxation policy at central even local level less difficult to economist. Theoretically the measurement of the administrative costs is not too difficult – main issue lays at perfect determination of particular type of taxation costs and its proper measurement.

The evaluation of tax efficiency collecting in the Czech Republic is suffering from lack of support data. The data are available on an aggregate level, but for measurement of administrative costs and analysis of costs for particular taxes are inapplicable.

Present structure of the tax revenue in the Czech Republic

The fundamental legal rule determining the following list of the taxes that may be collected in the territory of the Czech Republic is the Act approved by the Federal Assembly of the former Czech and Slovak Federal Republic:

- indirect taxes
 - value added tax
 - selective consumption excise taxes
 - tax on hydrocarbon fuel and lubricants
 - tax on spirit and spirits
 - tax on wine
 - tax on beer
 - tax on tobacco products
 - customs

- direct taxes

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- income taxes
 - individual income tax
 - corporate income tax (legal entity income tax)
- health insurance contributions
- social security contributions
- property taxes
 - real estate tax
 - land tax
 - tax on constructions
 - road tax
 - inheritance tax
 - gift tax
 - real estate-transfer tax
 - local taxes
- environmental taxes (special Act was not passed so far).

In addition to the upper described structure there are also collected the health insurance contributions and the social insurance contributions specified by special Acts.

Municipalities at the present time may collect local taxes from these objects:

- dogs
- accommodation capacity, spa capacity, recreation capacity
- municipal free space
- admission
- price playing slot machines

For these local taxes the Czech law use synonyms *local fees*. Local (and central) governments also collect *administrative fees*. Not being taxes these fees are not analysed in this paper.

From the point of view of the fiscal federalism the health insurance contributions are not revenues assigned to the even central nor local government budget but they go to the extra budgetary public funds. The social security contributions are revenue of the central budget. Allocation of the tax revenue between central and local governments is shown in the following table:

Allocation of the tax revenue between central and local governments – since 2000		
REVENUE OF THE CENTRAL GOVERNMENT (INCLUDING CENTRAL FUNDS)	REVENUE OF LOCAL GOVERNMENTS	REVENUE OF REGIONAL GOVERNMENTS
VAT (except revenues allocated to local and regional governments)	Real estate tax 20,59% of the total VAT revenue	3,1% of the total VAT revenue 3,1% of the total personal

PIT (except revenues allocated to local and regional governments)	20,59% of the total personal income tax (PIT) revenue from employees	income tax (PIT) revenue from employees
CIT (except revenues allocated to local and regional governments)	20,59% of the withholding PIT revenue	3,1% of the withholding PIT revenue
Social insurance contributions	20,59% of the total corporate income tax (CIT) revenue	3,1% of the total corporate income tax (CIT) revenue
Health insurance contributions (revenue of the health insurance companies)	20,59%*0,6 of the total advances for PIT	3,1%*0,6 of the total advances for PIT
Road tax (revenue of the Fund of transport infrastructure)	30% of the PIT revenue from self-employed incomes	
Excise taxes (20% revenue of the tax on hydrocarbon fuel and lubricants goes to the Fund of transport infrastructure)		
Inheritance tax		
Gift tax		
Real estate-transfer tax		

Source: Act 243/2000 Sb.

Tax Reform in The Czech Republic in 1993

The basic Acts creating the tax law in the Czech Republic came into force on the same day on which an independent Czech Republic was established, on the 1st of January 1993. The new tax law represents one of the basic components of the transition of the Czech economy. By accepting this new tax system the tax reform culminated although it was actually launched as early as in the year 1990 by the gradual adaptation of the budget revenues system which definitely was not compatible with the multi-sector economy, with the private undertakings and with the gradual privatisation of the economy.

Until the "Velvet Revolution" in November 1989 the system of budgetary revenues was mainly based on the transfers of state enterprises to national budget, but centrally planned investments were (to a considerable part) covered by budgetary subsidies. The income taxes were combined with payroll taxes. For nongovernmental organizations the common income taxes were replaced WITH special income taxes with a rather complicated structure.

The taxes paid by citizens formed only a complementary part of revenue of the government budget. The most important of them was a tax on salaries the structure of which was different from the standard individual income tax. Its progression finished far below the level of the average salary and for this reason the average tax rate was, in view of the taxpayer's age and the number of dependents, dependent on the social position of the taxpayer rather than on the level of his income. Salaries were taxed separately which resulted in the fact that several parallel smaller incomes were taxed less than one income equal to the sum of the smaller incomes. The tax payments were the responsibility of the employer.

Different kinds of incomes were subjected to further taxes but their total revenue was very low. Very confusing was also indirect taxation represented, above all, by turnover tax which had thousands of different tax rates and which should have ensured the separate existence of wholesale and retail prices rather than any budgetary revenue. The tariff of the turnover tax rates was, even with a reduction in the number of rates that had been carried out since the sixties, a pretty thick book. The tax was collected in a lump sum only on the prices of consumer goods and was further complicated by the existence of the so-called „negative turnover tax“ which was a form of a subsidy on selected products such as basic foodstuffs, energy for households, and, for many years, also on the clothing and footwear for children, etc.).

The tax reform was divided into three consecutive stages. In the first stage the reform concentrated on basically "cosmetic" alterations in the existing system of budgetary revenues in order to better meet the changing conditions in the economy and the year besides these changes, it should have promoted the then emerging private undertakings. At the beginning of the year 1991, the turnover tax rates were unified by the introduction of three basic rates. The second stage was actually the preparation for the new tax system. When developing this tax, several principal goals were set for the new tax system (Kubatova, 2000):

- Improvement the level of tax fairness, expressed by the same approach to all taxpayers regardless their legal status and the source of the incomes of individuals.
- Increase in the proportion of consumer tax (while simultaneously decreasing the proportion of products with higher consumer taxation). The consumer taxation instrument was value added tax in divided conception, common in the countries of the European Union.
- Increase in the significance of individual income taxation, while simultaneously unifying the taxation of the overwhelming majority of taxable incomes, as well as unifying (and gradually decreasing) the legal entity income taxation. This process should result in a significant decrease in the legal entity income taxation.
- Creation of space for the utilization of the fiscal system as an instrument for macroeconomic regulation.
- Preparation for the integration of our tax system with the tax systems of European countries and for our joining the European Union in the future.

- Division of the insurance system into general health insurance and social security insurance and a contribution to the government employment policy so that individuals realize their responsibility for their social security and their rate of effort to ensure this security.

Introducing a newly outlined tax system in the year 1993 launched the third stage of the tax reform. It is necessary to note that the new system was not represented only by new names and conceptions of taxes, but also by brand new tax administration. It was necessary to train thousands of new financial and tax clerks in many tax offices and to ensure their material and technical equipment.

Effectiveness of the tax collection – administrative costs of taxation

The basic reason of interest about administrative cost of taxation can be considered etc.:

- Fiscal reason in case of administrative costs
- Effort about complexity decision about effectiveness of public spending (should not be taking into account only “narrow” direct costs on project, but even cost associated with taxation.

The idea of “tax effectiveness” has several meanings very often. At the first the effectiveness can be consider as ability of government to collect taxes with low costs. These costs – administrative cost of tax system (AC) is a sum of all government level costs jointed with tax system.

We can assume that the criteria of effectiveness of taxation is total burden (E_T), which is a sum of all administrative costs (AC), compliance costs (SCC) and dead weight loss (DWL).

There are several techniques that can be used for data collection. Vaillancourt (1987) in the following table (for compliance cost data collection) shows that each method has advantages and disadvantages. For the administrative costs research is and the level of central government the most appropriate techniques face-to-face interview because

there is no need to contact a lot of respondents. For the local governments could be easier to mail the questionnaires to the municipalities (due to a great number of respondents).

The Data Collection Techniques

Characteristics	Survey Types		
	Face to Face	Telephone	Mail
Costs	High	Medium	Low
Response Rate	High	High	Low
Feasible Questionnaire	High	Medium	Low
Data Quality	High	Medium	Low
Bias of Respondents	Low	Medium	High

Source: Vaillancourt (1987)

The most approaches are based on simplification. The approaches take into account only costs associated with direct tax collecting, without calculating other administrative costs associated with tax collecting. Costs connected with central and sub central levels of government, which directly or indirectly cohere with existence of taxes remain off to costs quantification. It is affected especially by:

- Activities of Parliaments chambers bear on public funds revenues (e.g. discussing about new “earnings” laws, control of budgets filling).
- Activities of Cabinet cohere with revenue earnings.
- Total administrative agenda “earnings” ministries or other central government agencies, which directly or indirectly cohere with public funds revenues.
- Activities of policy, courts or others cohere with tax criminality.
- Activities of sub-central governments and their administrative, which are directly or indirectly, cohering with sub-central public funds revenues.

$$AC_T = \sum_i^n AC_i, AC \text{ is a government level, } i \in (1,2,\dots,n).$$

$$AC_1 = \sum_{j=1}^m AC_i^j, AC_i^j \text{ is a sum of AC for each government level, } j \in (1,2,\dots,m).$$

First equation expresses that total administrative costs of taxation is equal to sum of all administrative costs for each level of government in chosen country.

Second equation is specifying administrative costs for particular government level. The total sum of administrative costs for particular level is equal to sum of all administrative costs for each activity of the level of government.

The model does not deal with cash – flow costs and benefits that are produced during the process of tax collection.

The questions related with administrative costs and compliance costs of taxation costs has belonged for couple of decades to basic areas of interest among fiscal economists even government of developed countries – i.e. Sandford (1989), at consumer taxation e.g. Sandford (1981). In the Czech Republic, the intensive attention was not for the present paid to effectiveness of taxation, even if we can find partials research focusing on this problems (e.g. Dostálek (1999); Voříšková (1998). Unfortunately the Czech Republic governments have not unitary measurement methods of the administrative costs based on international studies but respecting the Czech circumstances, until now. The overview of measurement methods and contemporary results achieved in foreign countries is involved only in articles published by Vitek (2000); Vitek (2000a); Vitek (2000b).

There are the empirical studies of administrative costs focusing on economic developed countries. The main attention is paid to USA and Great Britain. For example Aaron and Gale (1993) in their book focused on economic effects of fundamental tax reforms, presenting that administrative and compliance costs of taxation in the United States are 75 mld. USD - approximately 10% of all tax revenues - (data are available only for federal government, for governments of particular states the estimations are not disposable). The similar outcomes are presented by Slemrod and Sorum (1984), who estimate administrative costs of federal taxes offices at 1% of all tax revenues and compliance costs of personal tax at 7% of its yield. The estimations of administrative and compliance costs for taxation of retail selling in the USA oscillate according to (Slemrod, 1984) in interval from 2-4% of its yield. The different estimations of administrative and compliance costs of VAT for EU countries is 5-6 % of its tax revenue. The study published by Armeij (1996) presents that all *social loses costs* cohere with taxation (i.e. sum of administrative and compliance costs and excessive burden) - society loses – joint with collection of federal taxes in the USA creates more than 33%

of total federal tax revenue. M. Godwin (1995) presents that sum of administration and compliance costs of British tax system are about 4 % of tax revenue - 1,5 percent of GDP. Pope (1995) published even estimation of costs for Australian tax system.

Administrative costs for taxes in UK (% of tax revenue)

Tax	Administrative costs as a % of tax revenue
Personal income tax and contributions	1,53
VAT	1,03
Corporation income tax	0,52
Taxes on fuel	0,12
Excise duties (fuel, tobacco, alcohol)	0,25
Other small fees and taxes	0,85
Total (central and local governments)	1,16

Source: Godwin (1995).

Administrative costs for taxes in Australia (% of tax revenue)

Tax	Administrative costs as a % of tax revenue
Personal income tax	1,2
Sale tax	0,6
Total	1,1

Source: Pope, 1995.

There are even other studies dealing with administrative costs measurement and compliance costs measurement we consider the short list as sufficient.

From previous data is apparent, that even measured values for different authors are varied (especially compliance costs) a basic consensus about significance and size of costs exists.

The answer on question, how relatively correctly quantified costs cohered with above-mentioned activities for every level of government, was not convincible solved in literature (complete list Vaillancourt (1987) or Sandford (1981) a (1989)). The reason why question is not convincible solved is imperfection of government accounting, which prohibits an aggregation of costs for particular activities of government cohere with public revenue. The lack of data is very often solved by expert estimation of government share on costs associated with taxes collection. The estimation is based on indirect indicators (e.g. share of employees dealing with tax problems, share of working time devoted to tax problems).

These helping indirect indicators of administrative costs are applied on total administrative costs of government.

The administrative costs very often are not included in measurements, which are focus on efficiency of tax system, are however probably lower than “direct” administrative costs of government connected with tax collecting.

The remaining question is how correctly measure a number of tax administrators and how much time they spend on tax collecting.

For example, in revenue authorities in the Czech Republic a quantification of total administrative cost will not be difficult, therefore other administrative activities of these offices are not too wide and we can take no account. Similar situation is for board of customs.

However we will meet two crucial problems:

- At first, offices which have many different activities (typical example is Czech Office for Social Security or Health Insurance companies), and do not have clear evidence of percentage share devoted to tax collecting
- Second complication resulting from that government does not keep accounting, which enables to clearly identify costs of government administrative. Therefore we cannot split costs for each subject. The possible way how to manage this problem is a construction of helping indexes again.

In this situation, when we are unable to measure a administrative costs directly from government statistics, it is useful to apply a method based on expert estimations for particular administrative costs.

We can either use methods base on questionnaires or extrapolation of particular/total administrative costs according to the values gained from few government agencies.

Central government administrative costs of taxation in the Czech Republic

The central government does not measure overall size of the administrative costs of taxation. This is the reason why it is very difficult to find data which allow to analyse administrative cost for each tax or whole tax system.

The first research of the cost of the tax revenue collection in the area of the present Czech Republic is shown in the following table:

Administrative costs of the tax service as a % of the total tax revenue (1930–1934)

Year	Administrative cost (mil. Kčs)	Tax and fee revenues	Administrative costs as a % of the total revenue
1930	498	11 096	4,4
1931	514	10 935	4,7
1932	537	10 651	5,0
1933	514	10 017	5,1
1934	513	10 043	5,1

Source: Vybral (1936)

The analytical studies focused on problems of administration and compliance costs are not for disposal in the Czech Republic. Very rough estimation of administrative costs of taxation is available for the former Czechoslovakia (between 1932 – 1936) at Vybral (1936). Voříšková (1998) and Dostálek (1999) present the first preliminary results (concerning measurement of administrative costs of taxation for social insurance contributions) in the Czech Republic. These estimations come from statistic of central government in which it is possible to find out administrative costs for taxes governed by tax offices. We have for disposal a data for sum of government expenditure to tax collecting at Czech Republic since 1993. These data is impossible to split per particular tax, miss complexity, and therefore its use for international comparison is limited.

The lack of data constrains authors solve the problem by using indirect indexes (rate of employee's number engage in tax problems from all office employees etc). These indirect indexes of administrative costs will be applied on sum of administrative costs of government offices.

Even if we simplify models the paper will face two main problems.

- At first, some offices work not only on tax collecting (ČSSZ or health insurance office).
- The second problems result from government accounting. We cannot identify costs associated with particular operations of government administration. It means, impossibility of costs dividing among tax authorities and other government offices.

Because of we can obtain a size of administration cost by direct way we use methods based on rations estimations. The methods measure a ratio of particular taxes on total administrative costs.

The next table shows results of the research of effectiveness tax collection for social security and health contributions. The data was discussed with experts from the Czech Office for Social Security and the General Health Insurance Company. The research has been based on detailed time study for the headquarters of these institutions and also on estimations of the number of employees that work on collection of the contributions in each institution.

Administrative costs of the health and social security contributions (1998-1999), CR

	Administrative costs as % of revenue
Health contributions	0,96
Social security contributions	0,41

Source: Voříšková (1998); Dostálek (1999)

Administrative costs of the social security contributions are relatively lower because the amount of revenue is more than twice higher than in the case of health insurance contributions. The result of this difference is less significant influence of the fixed costs for social security contributions.

Administrative costs as % of revenue are probably lower for the contributions than for the personal income tax. It could be argued that tax base for the social security contributions and also for the health insurance contributions is derived from tax base for personal income tax and therefore the collection and control for contributions is easier and cheaper than for the personal income tax.

Administrative costs of the tax service in ČR as % its collected revenue

	1993	1994	1995	1996	1997	1998	1999	2000
Cost as % of revenue	1,51	2,25	2,71	2,96	2,73	2,68	2,67	3,47

Source: Ministry of Finance CR, 2002.

The next table shows administrative cost for the customs, excise duties and VAT. Decrease of the ratio is primarily caused by increasing of the revenue (from 177 241 mil. Kč in 1996 to 264 038 mil. Kč in 2000). The amount of the expenditure in nominal sum is stable (from 4 337 mil. Kč in 1996 to 3 958 mil. Kč in 2000) but decrease in real value.

Administrative costs of the customs service in ČR as % its collected revenue

	1996	1997	1998	1999	2000
Cost as % of revenue	2,45	2,17	1,89	1,83	1,51

Source: Ministry of Finance CR, 2002.

The overall administrative cost of central government in the Czech Republic for the year 2000 can be estimated as sum of the administrative cost of:

- Tax service
- Customs service
- Czech Office for Social Security
- General Health Insurance Company

Total administrative costs for the central government (tax system in ČR) as % of its collected revenue, 2000

	Tax service	Customs service	Czech Office for Social Security	Health Insurance Companies	Total
Cost (mil. Kč)	5 234	3 985	900	800	10 919
Revenue (mil. Kč)	151 000	264 038	208 900	89 000	712 938
Costs as % of total revenue	3,47	1,51	0,43	0,90	1,53

Source: Previous tables and own calculations

Local governments and administrative costs of taxation – some cases

The system of the fiscal federalism in the area of the Czech Republic has often changed. Municipalities at the present time collect only several local taxes (fee for dogs, fee for accommodation capacity, fee for spa stay, recreation fee, fee for special way to use free /municipal/ space, admission fee, fee for operation of a price playing slot machines which are not fiscal important. Municipalities may decide to impose these taxes or not.²

The next table describe the structure of the Czech municipalities:

Structure of the Czech municipalities (1999)

Size of municipalities (number of inhabitants)	Number of municipalities	Share of the total number of municipalities (%)	Share of inhabitants for the size of municipalities (%)
Less than 199	1 608	27,2	1,99
200-499	2 063	33,9	6,6
500-999	1 217	19,5	8,47
1 000-4 999	99	15,9	18,92
5 000-9 999	135	2,2	8,75
10 000-49 999	108	1,7	20,57
50 000-99 999	17	0,3	12,3
100 000-499 999	6	0,1	10,61
More than 500 000	1	0,01	11,79
Total	6 236	100,00	100,00

Source: Ochrana (2001)

The research project that has started in January 2002 tries to analyse effectiveness of collection of local taxes in selected municipalities. We have computed size of the administrative cost for several small and medium municipalities. We use face-to-face interviews that allow to collect more accurate data. On the other hand this method is extremely costly for time of the research team. Unfortunately the mailing of the questionnaires still does not work in the conditions of the transitional economy. Some data are also available from web sites of the municipalities or <http://wwwinfo.mfcr.cz/aris/>.

The measurements don't include real estate tax and shared taxes that are collected by Tax service managed and financed by central authorities – these data are not relevant for analysis of the effectiveness on the local level.

Two methods are used for the data collection:

- estimate of the municipal employees (esp. estimates of the time consumption for administration of each local tax)
- calculation of volume of time that is necessary for administration of each local tax by researchers (frequency of operations multiple time for each operation)

The table shows some result:

² See Act No.565/1990 Sb. and Act No. 337/1992 Sb.

Administrative costs of local taxes in some municipalities, CR, 2000

Municipality	Number of inhabitants	Revenue form local taxes (thousand Kč)	Administrative costs (thousand Kč)	Administrative costs as % of revenue
A	150	3	6	200
B	400	7,5	8,1	107,5
C	6 400	1 313	182	13,9
D	9 800	970	307	31,6
E	23 000	1 365	243	17,8
F	33 100	7 750	243	3,13
G	72 000	15 207	486	3,2

Source: municipalities and <http://www.info.mfcr.cz/aris/>

The number shows, that the incidence of administrative costs is extremely regressive and that for small villages it would be effective to abolish these local taxes. Detailed analyses of each local tax that will be published during this year probably show that there are huge differences between individual local taxes.

Conclusions

The administrative costs of taxation on the central level in the Czech Republic correspond with the results of the similar researches in developed countries. The comparison of the costs with transitional countries is however very difficult – there are no available data for other CEECs that allowed compare these costs.

The most effective administration at the central level is indicated in social security contributions and customs and excise duties. The highest administrative cost has been identifying for administration of income taxes, VAT and small property taxes.

The measurements for chosen municipalities were not finished yet, therefore it does not make sense to introduce definite values of costs for particular municipalities and analyse dependencies of costs rates from different angle view. Preliminary results shows, that relative rate of administrative costs will be, in principle, influenced by total nominal size of chosen tax (fee) and in minor by construction of relevant tax. The rates of administrative costs for different local taxes are oscillating from 5% to 80% of chosen tax.

The lowest cost is joint with collecting of fee for operation of a price playing slot machines, on the other the highest are joint with collecting of fee for dogs, fee for accommodation capacity, fee for spa stay and recreation fee. The research also shows

that size of administrative costs for local taxes rapidly decrease in dependence on size of municipality.

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