

Sub-central Governments' Additional Taxes in the Czechoslovak Republic during the Great Depression Era

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Introduction

The issue of financing sub-central governments became relevant with their establishment. In Bohemia, Moravia and Silesia, this happened in the second half of the 19th century. For a long time there was a widespread belief that sub-central governments must rely first of all on the revenues from their own property, or possibly on special charges. The use of additional tax rate to national taxes was considered an exceptional measure, in case the two previously mentioned resources would not be enough to cover the needs. Vacek observes that „*The municipal law from 1864 did not take into account the independent municipal tax system at all.*“¹ The later practice and development after 1918, however, led to an opposite trend and the revenues from additional taxes started to be the major resource. You can see this fact in the first part of the work, where we will deal with general characteristics of the additional tax system.

It is quite obvious that additional taxes became a significant item in the tax obligation of corporation, sole traders and households as well. In the course of time, they even began to exceed by severalfold the tax burden imposed by the central government, as regards the actual direct taxes. When analysing the economic policy in the era of the First Republic with respect to the impact on tax subjects, we cannot ignore the development of sub-central governments' additional taxes and we even have to attribute to them an importance greater than have been attributed to them so far, according to the authors of this work. In the second part of the work, we will focus on the

1) Václav VACEK, *Soustava daní rakouských*, Prague 1912, p. 136.

development of the corresponding legislature and the resulting competences of subcentral governments. We will be interested above all in the changes brought about by the tax reform in 1927.

In the third part, we are working with particular data and we shall answer a few questions and verify a few hypothesis. The main question is whether the tax policy of sub-central governments did contribute to the deepening and prolongation of the economic crisis. We will explore if the rates were growing at that time, how the structure of tax revenues was changing and what the impact was on tax bases. In the conclusion, we will summarise our findings.

Although this is a work from the area of economic history, its authors think that it can also contribute to the current discussion about the reform of financing of sub-central governments. The issue that has been widely discussed is whether and in what way the fiscal autonomy of municipalities should be increased, as the current fiscal autonomy is one of the lowest fiscal autonomies in developed countries. The Program Declaration of the current government states that „an interest of the government is also to increase the financial motivation of municipalities to make the business ambience in the municipality more favourable.“² During the era of the First Republic, these aspects were solved by the use of additional tax rates to the national taxes, but nowadays the additional tax system is not used at all.³ Our work should also indicate what advantages or disadvantages the additional tax system would bring in the times of economic decline.

1 Sub-central taxes and their significance

Sub-central governments had to arrange an adequate financing for fulfilment of their functions. The basic concept of revenues of budgets counted on

2) Program Declaration of Government of the Czech Republic, 2010: URL: <http://www.vlada.cz/cz/jednani-vlady/programove-prohlaseni/programova-prohlaseni-74856/>, downloaded: 2011-03-07.

3) On the other hand, the additional tax system is working even today in many European countries. The typical example of this are northern countries (Denmark, Finland, Sweden), or Belgium and Italy, which use additional taxes to the personal income tax. In other countries, for example in Germany or in Luxembourg, special local taxes are levied on revenues of companies that are very similar to the additional tax system.

the fact that „the expenses should be paid in advance from the property of the sub-central governments; only what cannot be covered by this payment, should be covered from the public revenues“⁴. The Act no. 329 from 1921 rated sub-central additional taxes among national taxes in the group of „levies“, where it also put “individual levies” such as the dog levy, the temporary stay levy, or the levy from possession of motor vehicles. We would classify those as “fees” nowadays.

Karel Engliš defined additional taxes of sub-central governments as „concurrent taxation of the same subject in the same way by both the state and the sub-central authority, regardless of whether these two types of a tax are collected together or separately. One tax is the base and the other is expressed as a percentage from the first one.“⁵ He also mentioned that the more suitable type of tax base is the national tax and not the sub-central tax, as the national tax is uniform for the whole territory, while the sub-central tax is not. Slováček states that additional taxes „are just an addition to the national tax, which they are collected together with and which they share the legal fate of...and they serve to pay a budget deficit that follows from the difference between the budget need and the budget payment.“⁶ From this reason, the municipal council had to agree on additional taxes when negotiating the budget for the following year.

Choice of the type of national taxes to which additional taxes were added was determined by the historical development and justified even by theoreticians of the public finances. „...it is suitable essentially for all taxes... provided, however, that they are in close connection with the territory of the region, do not disturb the uniform financial system in the state, secure uniformity in the structure of taxation...“⁷ They should be collected easily and inexpensively, that is why the state collects them together with the national tax, nevertheless, this leads – on the other hand – to the fact that „tax payers attribute this entire tax burden to the state and it results in emergence of a public tax resentment against the state.“⁸

4) Boleslav FUX, Eduard WICHTA, *Samosprávné finance, otázka samosprávných financí v Československu*, Prague 1932., p. 194.

5) Karel ENGLIŠ, *Malá finanční věda*, Prague 1932, p. 308.

6) Jan SLOVÁČEK, *Dávky, poplatky, přírážky, příspěvky a naturální plnění*, Prague 1939, p. 108.

7) FUX, WICHTA, *Samosprávné finance...*, p. 90.

8) ENGLIŠ, *Malá finanční věda*, p. 311.

In the long run, the suitable revenues of sub-central governments, especially municipalities, included any kind of real estate tax or real estate revenue tax, regardless of under what name it carried. Real estate as a tax base cannot be transferred and above all, price of a real estate is influenced by the quality of infrastructure and public facilities that sub-central governments provide. In the surveyed period in Czechoslovakia, it concerned the land tax and residential tax, which was divided into the rental tax and housing tax. Municipalities were also able to collect, since 1921, the 10% additional tax to the state levy from ownership transfer of real estates between living persons, if the real estate was situated in the land registry of the given municipality.

As regards the consumption taxes, „...it would be suitable, if the state excluded non-production taxes from its system of consumption taxes and left them to the sub-central authority.”⁹⁾ On the basis of the Act from 1919, municipalities were able to collect an additional tax up to the amount of 25 % to the general beverage tax from wine, must and other juices of grapes and other fruits. Since 1920, all lands were collecting an additional tax from alcohol drinks and also a levy from beer that bore most of the marks of an additional tax. On the other hand, districts did not collect any additional taxes other than those added to the direct taxes.

While as regards real estates, the accent was put on the advantage of immovability of the tax base, the absolute opposite applied for taxation of financial capital. „Also unequal taxation of financial capital by the sub-central authority is less suitable, as capital is too movable and the possibility of a shift towards lower taxation is very easy.”¹⁰⁾ This was the reason why additional taxes could be collected only as an addition to the rent tax collected directly and not by deduction.

The wording of laws and opinions of experts has been repeatedly insisting on the principle that revenues from additional taxes should be just some kind of an extraordinary and only complementary source of revenues of sub-central governments. But as the following table shows, it was the major source of revenues in the era of the First Republic. The proportion was distinctively different with respect to individual types of sub-central governments.

9) Ibid, p. 307.

10) Ibid, s. 309.

Table 1 - Proportion of individual types of revenues of sub-central governments

Year 1927	Additional taxes	Subvenes	Levies and fees	Own property revenue
In total	38,0%	36,0%	16,0%	10,0%
Municipalities	44,0%	9,5%	25,5%	21,0%
Districts	70,5%	27,0%	5,0%	2,0%
Lands	22,5%	66,0%	10,0%	1,5%

Source: Václav ZELENKA, *Vývoj hospodaření svazků územní samosprávy a počátky hospodaření národních výborů*, Prague 1986, p. 41.

2 Development of tax competences of sub-central governments in the era of the so-called First Republic

2.1 Development until 1927

The possibility to levy municipal taxes additional to direct taxes was introduced together with the establishment of municipalities in 1863-64. The district councils emerged in 1864 in Bohemia, in 1877 in Moravia and ten years later in Silesia on the basis of land laws. Also for districts, though their agenda in individual lands was different, the possibility to collect additional taxes was permitted at the moment of their establishment. For revenues of individual lands, the imperial patent from 1861 was important.

The institute for approval of additional taxes by higher level of sub-central government or by other authorities was established by the law from 1901. As all the types of additional tax rates of that time were relatively small (see the Table 4) and the principle about the extraordinariness of additional taxes was applied more consistently, limits of determination of additional taxes by the superior body (supervision authority) were set very low. Maximum limits of additional taxes, however, were not set. For example municipal council was able to approve on its own only 15% rate of taxes additional to direct taxes, taxes above this limit up to 40 % it used to be approved by district council, up to 50 % by land committee and „a permission of the land committee is necessary with consent of c.k. viceregency with regard to issuing additional taxes that would sur-

pass 50% of direct taxes. A resolution of the land assembly is necessary, if an agreement between the land committee and the viceregency is not reached, in such case however the resolution of the assembly requires approval by the emperor.¹¹

The relatively low rates can also be explained by the fact that it was possible at that time to issue taxes additional to the individual income tax. After the war however, this tax was excluded from the additional tax base. It occurred on the basis of the Act no. 72 from 29th January 1920. Afterwards sub-central governments began to compensate for the deficit caused by the exclusion of this tax by increasing additional taxes to other direct taxes. This effect was moreover reinforced by the fact that the proportion of the individual income tax (with regard to the revenue for the state budget) was growing rapidly:

Table 2: Structure of revenues of direct taxes

Direct tax revenue in %	1913	1930
Land, residential tax	42,1%	13,8%
Business income tax	8,6%	6,1%
Corporate income tax	21,0%	6,7%
Income tax	23,5%	65,9%
Rent tax	3,1%	6,5%
Higher salary tax	1,7%	0,5%

Source: Václav ZELENKA, *Vývoj hospodaření svazků územní samosprávy...*, p. 48.

After the republic was established, a new adjustment of the additional tax system soon followed. „The issue of communal finances had been very delicate long before that (before 1918), but after the change of the governing regime, its solving was advancing very vigorously.¹² The Act no. 329/1921 determined certain limits for setting municipal taxes additional to direct taxes. The additional rates higher than 100 % had to be approved by the directly supervisory authority, higher than 200 % then had to be approved by even more superior supervisory authority. Some of

11) VACEK, *Soustava daní rakouských*, p. 135-136.

12) Vladimír BRACHTL, Josef DRACHOVSKÝ, *Zákony o přímých daních československých*, Prague 1927, p. 18.

the additional taxes with the rate of 200 % or those of 300 % also had to be approved by the revenue authority. If those two authorities did not concord, it was up to the central government to decide. The fact that those stipulations did not prevent from excessive increase in tax burden and requests of municipalities were treated indulgently is proved by the statistics from 1926.

Table 3: Number of municipalities according to individual additional tax rates in 1926

Lands	Total number of municipalities	Over 500 %	Over 600 %	Over 700 %	Over 800 %	Over 900 %	Over 1000 %	Over 1500 %	Over 2000 %	Municipalities with excessive additional taxes
Bohemia	8375	1308	1451	1340	985	635	1317	215	143	88%
Moravia and Silesia	3328	390	472	555	471	340	696	111	43	92%
Slovakia	3467	265	182	126	96	76	120	28	9	26%
Subcarpathia	484	14	12	10	7	3	6	6	2	12%
CSR in total	15654	1977	2117	2031	1559	1054	2139	360	197	73%

Source: Boleslav FUX - Eduard WICHTA., *Samosprávné finance...*, passim.

Although this is only an estimate, almost three quarters of the municipalities took advantage of an „extraordinary“ increase of additional taxes that had to be also approved by the revenue authority. Moreover, there were municipalities, where the total percentage of additional taxes was over 3000 % and the highest record of that year reached an unnamed municipality from the Písek district, where the total amount of additional tax rates was 7513 %!

2.2 Tax reform 1927

As we mentioned earlier, additional rates to direct taxes that were applied by sub-central governments, especially municipalities, were continuously increasing in time.

Table 4 - Development of the average tax additional tax rate to the direct taxes

Development of average additional tax rates	In total	Lands	Districts	Municipalities	Tax base per person	Additional tax per person
1901	140,0%	78,0%	26,0%	36,0%	8,29 Kč	11,63 Kč
1912	180,0%	80,0%	38,0%	62,0%	9,92 Kč	17,84 Kč
1922	526,0%	150,0%	126,0%	250,0%	25,74 Kč	135,41 Kč

Source: ZELENKA, *Vývoj hospodaření svazků územní samosprávy*, p. 37.

As the purpose of the tax reform of 1927 was to decrease the direct tax burden, it could not neglect to restrict these additional taxes, so they were restricted to the amount of 160 % (lands), 110 % (district), 200 % (municipal), i.e. 470 % in total. There were a lot of exceptions; we can mention those most important ones. The rate of the rental tax was lower by half than the rates mentioned previously. Under very extraordinary conditions (when there was a great indebtedness), municipal additional taxes could be increased to 300% (or 350 %), district additional taxes to 150 %, i.e. to 660 % in total, if the municipal council agreed by three-quarter majority of all members at least. It is necessary to remember that additional taxes could not be levied on the individual income tax since 1920 and the reform did not change this.

The statement of reasons for the government bill stated that „*the hitherto protection - that is the requirement of permission by superior authorities - against an excessive burden by additional taxes of sub-central governments was inefficient, as these higher authorities did not have another choice than to approve additional taxes, if sub-central governments were not to find themselves in a situation with no possibility to cover the deficit in their budget.*“¹³ That is why the new law expanded competences of supervisory authorities. These were, for example, to check whether revenues from additional taxes are used only for the purpose determined by the law.

13) Digital Archive of the Chamber of Deputies of the Parliament of the Czech Republic: URL: <http://www.psp.cz/eknih/1925ns/ps/tisky/index01.htm>, downloaded: 2011-03-06.

Restriction of the fiscal autonomy occurred also by means of increasing the proportion of subventions in the total amount of revenues of sub-central authorities. As it was anticipated that some of the sub-central authorities would get into serious difficulties, special equalising funds administered by land committees were established, from which subventions were allocated to municipalities and districts. The sources of the funds were some of the direct taxes and also a part of the turnover tax and luxury tax. Besides, the government could, under certain circumstances, allocate subventions from those last two mentioned taxes directly to individual lands.

Representatives of the Czech Federal Central Office for Villages, Towns and Districts in Prague assessed the reform as very negative: „*Sub-central was eclipsed by bureaucracy.*“¹⁴. On the other hand, Brachtl and Drachovský emphasised that restricting sub-central governments was not an end in itself: „*these restrictions aimed to prevent the excessive and ruthless tax burden on the tax payers for one thing and the possibility to use the temporary political power in municipality to create financial systems biased by their party membership.*“¹⁵

2.3 Further development

Tax laws from 1927 were issued in the times of a culminating economic boom, so decrease of the tax burden acted pro-cyclically with a negative impact on revenues of sub-central authorities. An amendment of the act on new adjustment of the financial system of sub-central governments was approved already in 1930. Its statement of reasons mentions that, „*it is necessary to alleviate some of its restricting provisions in the interest of purposeful fulfilment of significant duties of the sub-central authority.*“¹⁶ The main provision of the amendment regarded changes in the functioning of the equalising funds, to which thousands of applications for subsidies by municipalities were directed after the restriction of additional tax rates. These funds were cancelled, or rather transformed into a part of the budget of the lands.

14) Bohdan VANČURA, *Do nového roku 1932*, in: *Věstník Českého zemského ústředí obcí, měst a okresů v Praze*, Praha 1932, p. 1.

15) BRACHTL, DRACHOVSKÝ, *Zákony o přímých daních československých*, p. 17.

16) Digital Archive of the Chamber of Deputies of the Parliament of the Czech Republic: URL: <http://www.psp.cz/eknih/1929ns/index.htm>, downloaded: 2011-03-06.

Nevertheless, some restrictions for setting the additional taxes were also alleviated, for the purpose of achieving higher revenues of municipalities and districts. The rate of the municipal additional tax rates that were not subject to approval by a superior authority increased up to 150 %. The highest permissible rate of these additional taxes increased from 200 % to 250 %. The alleviation of the restriction consisted for example in the fact that an increase of municipal, or district additional rates to 350 %, or 150 % had to be approved by three-quarter majority of all representatives and it was no more based on the aspect of payment of interest costs or other debt criteria. But the rules were alleviated even when such a large majority of votes was not used. For example until this moment, what was necessary for permission to increase additional taxes was „*a determinative need to pay interests and instalments only from those loans that had been effectively concluded until 1st July 1927, while according to this amendment, interests and instalments for other effectively concluded loans should be taken into account as well.*“¹⁷

The amendment came into effect on 1st January 1931, so that it influenced the economy of municipalities in the period that is the subject of the analysis in the third part of this work. Critical voices against it were also heard, for example the observation of the Czech Federal Central Office for Municipalities, Towns and Districts: „*districts do not have a least benefit from the increased limit of additional taxes,...though the financial crisis is most acute just for them.*“¹⁸ According to Klapka „*nothing have been done in the issue of getting free of debts and the billion debts of the sub-central are still here as a stone burden.*“¹⁹

Another amendment, besides the above-mentioned one, was approved in 1935. This one does not pertain to the period we are exploring, yet it is necessary to mention the basic changes it brought, to complete the picture of the entire context of the development of the additional tax system.

We can say that the amendment from 1935 continued the trend established by the previous amendment and it fully reflected the impacts

of the economic crisis including the increasing indebtedness of sub-central governments. The statement of reasons states: „*The annuity service from loans is draining such a part of budget incomes of many (sub-central) authorities that their regular administrative activity is being disruptively smothered or it even collapses, so the clusters loose the possibility of taking care about their duties in the frame of their legal competence without interruptions and adequately to the local situation.*“²⁰ Indebtedness of municipalities and districts culminated in 1933, when it reached more than 11 billions CZK.

The amendment from 1935 cancelled other requirements for setting higher additional tax rates, only a vague statement was left that supervisory authorities shall take into consideration whether municipalities or districts „*collect adequate and purposeful taxes and levies, for which the government issued exemplary rules, suitable for the local situation.*“²¹ However, there was a certain restriction on the rental tax, when direct and absolute limits of its rates were set instead of indirect limits relatively connected with other limits of rates of other taxes. But even here an exception for sub-central governments that were collecting higher rate than the set limit was inserted. Special and also higher limits applied to those.

Probably the most fundamental change was that municipalities and districts could collect another extraordinary 50% additional tax, so the maximum amount of all rates together increased to 760 %. The extraordinary additional tax could be collected when a deficit of the budget persisted despite the maximum use of the rate of additional taxes and at the same time it had to be used for „*interests and payments for loans that were concluded to multiply property or increase its value, for companies or public utilities, if the interest rate and redemption of these loans is not paid from revenue of this property, companies and public utilities or by means of special contributions of the interested persons.*“²² For this approval by three-quarter majority of representatives was necessary, or it could be ordered by the supervisory authority.

As for some authors, the continuous proverbial thorn in the side was the additional tax limit that, despite partial increase, remained mostly

17) Ibid.

18) Kolektiv autorů, *Připomínky Českého zemského ústředí k novele zákona č. 77 z roku 1927*, in: *Věstník Českého zemského ústředí obcí, měst a okresů v Praze*, Prague 1930, p. 75.

19) Otakar KLAPKA, *Po slovech skutky*, in: *Věstník Českého zemského ústředí obcí, měst a okresů v Praze*, Prague 1932, p. 21.

20) Digital Archive of the Chamber of Deputies of the Parliament of the Czech Republic: URL: <http://www.psp.cz/eknih/1929ns/index.htm>, downloaded: 2011-03-06.

21) Act No. 69/1935 on financial measures for sub-central governments.

22) Act No. 69/1935 on financial measures for sub-central governments.

unchanged for the entire 1930s. A considerable part of the blame for the increasing indebtedness of sub-central authorities was attributed to that limit. „If municipalities had the possibility to pay all their budget deficits by means of additional taxes with unlimited extent, there would be no crisis of the financial system of municipalities to talk about...“²³

For greater transparency, the most significant changes in the era of the so-called First Republic are summarised in the following table:

Table 5 - Basic changes in the additional tax system during the era of the First Republic

Period/scope	Additional tax limits	Approval by duperior authorities	Procedural conditions
Before 1927	None	up to a three-level gradual approval with gradual surpassing of certain limits, when there were differences of opinion between the levels, it had to be approved by the emperor, later by the central government	resolution of the corresponding council by three-quarter majority of the participants
After the Act 77/1927 was passed	municipal - 200 % (300 %, 350 %); district - 110 % (150 %); land - 160 %; the rental one is half of those mentioned above	approval by an authority of just one level - by the directly superior supervisory authority	resolution of the corresponding council by three-quarter majority of the participants

After 1930	municipal - 200 % (300 %, 350 %); district - 110 % (150 %); land - 160 %; the rental one is half of those mentioned above	approval by an authority of just one level - by the directly superior supervisory authority ; increased limit for increasing municipal additional taxes without approval by a supervisory authority	resolution of the corresponding council by three-quarter majority of the participants ; for higher additional taxes without restricting conditions for municipalities (300 %) and for districts (150 %) by three-quarter majority of all members
After 1935	municipal - 200 % (300 %, 400 %), district - 110 % (200 %), land - 160 %; rental tax: municipal 125 % (200 %), district 55 % (110 %), land 80 % (160 %)	approval by an authority of just one level - by the directly superior supervisory authority ; objective restricting conditions cancelled and it was left to the judgment of the supervisory authorities	resolution of the corresponding board by three-quarter majority of the participants ; for higher additional taxes without restricting conditions for municipalities (350 %) and for districts (200 %) by three-quarter majority of all members

3 Analysis of the consequences of the tax policy of SCG

There is no doubt that the people of that time were very much aware of the consequences of the tax policy during the economic crisis: „However, the public economy needs resources, so it strives to obtain them by increasing taxes and levies and introducing new ones...but all this burdens all the economic conditions even more...“²⁴ Distorsion effects of this policy were reflected not only in the increase of the volume of tax arrears, but also in the growing ef-

23) Alexander PĚNIČKA, *Krise samosprávy a sanace financí obecních, okresních a zemských*, Ostrava 1930, p. 192.

24) Josef DRACHOVSKÝ, *Šest přednášek o hospodářské krizi*, Prague 1932, p. 29.

fort to tax evasion. „These measures, besides coming in the times usually already very hard for the tax payer, provoke a certain resentment that is manifesting itself in tax embezzlements in a very severe manner.”²⁵

Although the modern theory of fiscal federalism emerged only after the WWII., economists had been aware already earlier of the effect of the mechanisms that we would today call „tax competition.“ It was emphasised for example by Engliš: „Various taxations of revenues from enterprising... cause that corporations search and locate their seat not according to the aspects purely economic but even in some cases against the economy - in municipalities with low additional taxes.”²⁶ This enables companies and entrepreneurs to perform tax optimisation and reduce their tax burden in an artificial way: „the tax is then divided, if the corporations has more places of business or branches... or they at least transfer their seat towards the lower taxation.”²⁷

Fux describes the disadvantages of the additional tax system in the similar way: „the pressure of higher additional taxes has an unfavourable impact on business activity altogether, and it often results in moving of more mobile industries into regions with lower pressure.”²⁸ As additional taxes show a tendency to grow, their continuous changes „intervene disruptively in the industrial calculation and they aggravate considerably the stability of both production and prices.”²⁹

3.1 Accessibility of Data

Our analysis is limited by the fact that the Office for National Statistics (Státní úřad statistický) did not collect detailed data about additional taxes of sub-central governments consistently, but only in some years. The years that are available are only the following - 1926, 1928, 1930 and 1933. We have to exclude 1926 from this, as an extensive tax reform was approved in 1927 that changed the tax system including the additional tax system in such an extent that the data from 1926 are not comparable to the data from other years. Moreover, the publications refer only to the taxes additional to the direct taxes.

25) Ibid, p. 36.

26) ENGLIŠ, *Malá finanční věda*, p. 305.

27) Ibid.

28) Boleslav FUX, *Reforma k přímým daním ve státě Československém*, Prague 1923, p. 226.

29) Ibid.

Another complication lies in the fact that the data about particular municipalities were recorded by the Office of Statistics only in towns with more than 10,000 inhabitants. It mentioned other towns only in intervals as one unit, for example all municipalities from 1000 to 2000 inhabitants in the given land, where it stated the particular data like e.g. average additional tax rate for the whole sample, the amount of the minimum and maximum additional tax rate without mentioning particular names of the municipalities.

A similar situation is repeated in districts, where only the number of municipalities from the given district is indicated in a certain interval of additional tax rates, for example from 200 % to 300 %. This, however, makes it impossible to perform a reliable analysis of impacts of the changes in the sub-central governments tax policy. Not only we lack particular data, but we also are not able to identify municipalities, which changed the rates in the given interval, though it must have been very important for the economic life. For example the considerable increase of the tax burden by one third, i.e. the increase of the rate from 210 % to 280 %, is not recorded at all by the publication of the Office of National Statistics.

Our analysis is focused, for the reasons of objective limitations, on comparison of three time periods and on towns, for which we know particular data about the amount of additional tax rates, additional tax base and the municipal, district and land revenues from the additional taxes. It concerns 81 towns in 1928, 104 towns for the years 1930 and 1933. It is understandable that we have to take into account additional taxes of all three levels of the territorial sub-central governments in our analysis. An overwhelming majority of the analysed towns also represent capitals of districts and we include towns from all four lands of the Czechoslovak Republic in the sample.

3.2 Definition of the compared variables and formulation of hypothesis

For the following analysis, it is necessary to define the particular assessed variables and justify the suitability of choosing them. Above all, we have to formulate clearly, how we are going to describe the change of the tax policy of the particular sub-central authority. The question is whether we should deal with the formally set rates or whether to find another indicator. As for the formally set rates, the problem is that, with respect to individual taxes within one town, we come across various rates, so we do not have one indicator for one town. For this reason we defined the **effective additional tax rate**

(hereinafter just “effective rate” in the analysis) that equals the proportion of tax revenues and the additional tax base.

Further we have to explain the reason why we are going to include the municipal, district and land tax rates in the effective rate. This reason is that we are interested in the impact on those tax subjects, for which it was not necessary to distinguish what part of the paid tax was revenue of municipality, district or land. The economic situation of tax payers is affected by the total tax burden and our aim is to describe impacts of additional taxes of all sub-central levels. Besides, the tax policy of all individual sub-central government in the vertical relation could differ and its impacts could compensate each other, e.g. when in the same year the given town increased additional taxes, but its district and land decreased them. Nevertheless, we are interested in the overall impact, so we are going to measure the total change of the tax policy of all three levels in the given town by means of the effective rate.

Now we have to find the dependent variable, by means of which we can measure impacts of the changes of the effective rates. There are several options.

- tax revenues - a simple indicator that, however, does not take into account many other influences that distort impacts of the change of the effective rate in time, e.g. movements of the price level, development of the regional economy
- additional tax base - another simple indicator, which has the same weaknesses as the previous one
- tax revenue cleaned from the inflation (deflation) impact - this aggregate indicator cleaned from the inflation does not take into account the different developments of price levels in individual regions, moreover, the above-mentioned indicators are not able to record changes in the tax policy of the state, which affect the size of the additional tax base and thereby also the tax revenue of sub-central budget
- share on the tax revenue in the total revenue - eliminates the above-mentioned weaknesses, but there is still that problem of different numbers of inhabitants in different time periods
- share on the tax revenue per inhabitant in the total revenue per inhabitant - eliminates all the above-mentioned weaknesses, the total revenue means the total revenue of additional taxes of sub-central authorities at all levels.

According to the above-mentioned facts, the indicator that is closest to objective measurement of the impact of the changes of the tax policy is the change of the share on the tax revenue per inhabitant in the particular town to

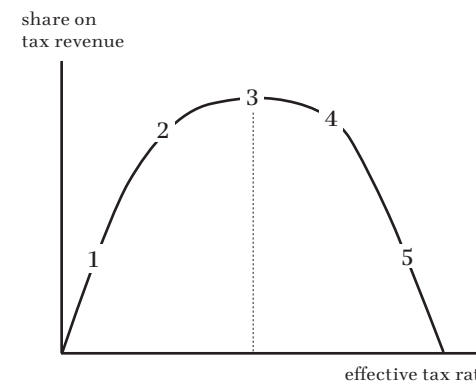
the average revenue per inhabitant in the whole republic (hereinafter simply “share on the revenue”).

After indicating the dependent and independent variable, we have to describe the mechanism of causal dependency and describe the phenomena that can occur. If we want to identify the negative impact of the tax burden on the economic activity reflecting itself in the change of the revenue, we need to formulate the following variants:

- 1) increase of the effective rate by 1 % results in increase of the proportion by 1 %
- 2) increase of the effective rate by 1 % results in increase of the proportion by less than 1 %
- 3) increase of the effective rate by 1 % does not result in any change of the proportion
- 4) increase of the effective rate by 1 % results in decrease of the proportion by less than 1 %
- 5) increase of the effective rate by 1 % results in decrease of the proportion by 1 %

For a clear description, we use the simple model called Laffer curve, which illustrates the relation between the tax rate and the tax revenue under circumstances otherwise unchanged. Our analysis works with modified variables, however, relations between them are similar and so we can use this model also for the purposes of the analysis of those relations in Czechoslovakia of 1920s and 1930s:

Graph 1: Variants of the relation between development of the effective rate and share on the revenue



The logics of the course of the curve is the following, however, we must point out that we are modelling a situation in one town while the situation is the same in other towns and municipalities. We have two borderline theoretical situations here – if we set the effective rate to 0 %, it is logical that the revenue will be zero and so even the share on the revenue will be zero. In the opposite situation, if the effective rate reaches such a prohibitive amount that it will not be worth for the tax payers to stay in the given municipality, or to perform any activity there, or if their activities are transferred into the “grey” economy and they perform tax evasions, then the revenue and the proportion in the revenue will approach zero as well.

Nevertheless, the variants that occur in practice are those marked in the text by numbers from 1 to 5. The position no. 3 can illustrate such a situation, when the given effective rate maximises the revenue and thereby also the proportion in the revenue. Our first hypothesis then assumes that **in the period of 1928–1933, most of the explored Czechoslovak towns either were situated in, or were heading towards, the zone marked by no. 4 (Position 4)**. This means that distortion effects of the tax policy and their negative impact on the economic activity were predominant.

Our aim is also to find the optimum amount of the effective additional tax rate, i.e. the rate under which the proportion in the revenue would be potentially maximised. The second hypothesis that we are going to verify is related to the previous one. We assume that **the optimum effective rate in the crisis years of 1930 and 1933 oscillated under the average effective rate within the sample of the surveyed municipalities**. This would indicate that sub-central governments, in an effort to compensate for the impact of the decreasing tax bases in the times of the economic crisis, were increasing tax rates above the optimum level and thus they negatively affected the economic activity and reduced their tax revenue.

3.3 Data analysis

First, it is necessary to judge the overall importance and evolution of additional tax system in aggregate numbers.

Table 6 - Sub-central government tax system in aggregate numbers

Indicator	Additional tax revenue	Share on overall public revenue	Additional tax base	Effective additional rate	Revenue per capita	Effective additional rate in surveyed sample	Revenue per capita in surveyed sample	Ratio of column 7 and 5
Column	1	2	3	4	5	6	7	8
unit	mil. CZK	%	mil. CZK	%	CZK	%	CZK	index
1928	1484,7	7,0	388,9	382	104,9	426	206,0	1,96
1930	1511,8	7,6	402,1	376	102,7	410	173,7	1,69
1933	1444,7	9,5	363,0	398	98,1	433	161,5	1,65

Source: Own calculation

Although burdensome for firms, property owners and sole traders, additional tax system's share did not reach a tenth of overall public revenue. We also see that revenue of additional taxes grew in the early period of the Great Depression that was caused by the increase in tax base. On the contrary influence of rate was negative – it decreased very moderately. What is important, revenue per person dropped at the national level as well as in the surveyed sample.

In the year 1933 tax base dropped and additional tax rates rose so this is the contrary of previous periods. Revenue per capita dropped again. Higher economic importance of municipalities with more than 10,000 inhabitants is shown in Column 8. Interesting evolution of this index during the surveyed period indicate that the Great Depression more deteriorated tax revenue in our sample of bigger towns than the rest of the republic. Now we have to focus on the particular groups of municipalities from the analysed sample in particular periods.

Table 7 - Municipalities with the change in rates and change in shares (1928-1930)

Change in rates	Change in share on revenue		Sum total
	Decrease	Increase	
Decrease	36	16	52
Increase	16	13	29
Sum total	52	29	81

Source: Own calculation

As we clearly see, the effective additional tax rate dropped in the majority of surveyed municipalities (52) and it rose in 29 municipalities. Then, an increase in rates led to an increase in share on additional tax revenue in 13 municipalities but decreased the share in 16 municipalities. A decrease in rates led to an increase in additional tax share in 16 towns, the rest (36) lost part of their shares when compare with the republican average. Similar results can be found in Table 8 for overall period:

Table 8 - Municipalities with the change in rates and change in shares (1928-1933)

Change in rates	Change in share on revenue		Sum total
	Decrease	Increase	
Decrease	29	11	40
Decrease	20	21	41
Sum total	49	32	81

Source: Own calculation

Comparison of the later period of the Great Depression brings the necessity to take into the analysis more municipalities because of the increase of inhabitants. More towns reached the 10,000 limit so we examine 104 units instead of 81. We also see four municipalities with no change in the share on tax revenue.

Table 9 - Municipalities with the change in rates and change in shares (1930-1933)

Change in rates	Change in share on revenue			Sum total
	Decrease	Increase	Same	
Decrease	25	4		29
Increase	27	44	4	75
Sum total	52	48	4	104

Source: Own calculation

The crucial variables for our analysis are the change in share on additional tax revenue and the change in effective additional tax rates (as an exogenous variable). We will use percentage change in order to catch the surveyed effects better. The simplest way how to describe relation between the variables mentioned above is using of the correlation coefficient. It shows absolute positive relation if equals „1“ and absolute negative relation if equals „-1“. If there is absolute independency, coefficient equals „0“. We see the results in Table 10:

Table 10 - Correlation coefficients: relation between the change in additional tax rates and the change in tax revenue shares

1928-1930	Change in rates
Change in shares	0,274
1928-1933	Change in rates
Change in shares	0,389
1930-1933	Change in rates
Change in shares	0,647

Source: Own calculation

The size of correlation coefficients implies a positive relation between the change in effective additional tax rates and the change in shares on revenue. The correlation seems to be rather weak for the periods of 1928/1930 and 1928/1933, then turns stronger for period of 1930/1933. This result has to be the object of following analysis when we will focus on different categories of municipalities.

The sample was divided into the three groups according to the reaction of the share on tax revenue on the change of the effective additive tax rate. These groups correspond to position 2, 3 and 4 of the modified Laffer's curve as shown on Graph 1. We see in Table 2 that we have to reject our hypothesis that the majority of municipalities belongs to the category of position 4. **That means households and firms were victims of the inadequate tax policy in the minority of the surveyed municipalities. In the majority of municipalities, sub-central governments conducted tax policy, when a rise in the effective rate led to a higher share on revenue or drop in effective rate led to a lower share on revenue.**

Table 11 - Number of municipalities of different tax policy

No. of municipalities	Data 1928-30	Data 1928-33	Data 1930-33
1928	Position 2	47	55
	Position 3	7	4
	Position 4	27	22
1930	Position 2	47	80
	Position 3	7	1
	Position 4	27	23
1933	Position 2	55	80
	Position 3	4	1
	Position 4	22	23

Source: Own calculation

We use the same division of the surveyed sample as above for estimation of optimal effective additional tax rate. The most important group consists of municipalities where change in effective rates did not lead to significant change in share on revenue - position 3. Then we estimate arithmetic mean for all group as well as all three intertemporal changes. This estimation is shown in Table 12:

Table 12 - Arithmetic means of effective rates in %

Arithmetic mean of rates	Data 28-30	Data 28-33	Data 30-33	Mean
1928	Position 2	426,55	427,38	426,97
	Position 3	440,29	421,00	430,65
	Position 4	420,74	422,72	421,73
1930	Position 2	402,17		406,19
	Position 3	440,78		378,76
	Position 4	435,74		424,50
1933	Position 2		422,58	426,28
	Position 3		428,92	452,63
	Position 4		442,50	457,12

Source: Own calculation

Calculating of arithmetic mean shows that the optimal effective rate necessary for maximizing tax revenue was changing during the period of the Great Depression and reached about 410 - 440 %. The table above also sometimes suggests some illogical results - municipalities of position 4 reached lower rates than municipalities of position 3, the exact contrary of theoretical background. This symbolizes our inability to determine a clear empirical relation between effective rate and share on revenue as we discussed it above.

Possible explanation includes various local conditions which can not be taken into account at the national level. For example, structural problems of local industry, different influence of foreign demand or influence of non-tax measures with different effects on the local economic activity. When compared with average additional tax rates from Table 6 we conclude that optimal rates lie just above average rates. **Therefore, our second hypothesis is also rejected.**

Even though there is no proof of generally negative effects of sub-central governments' we can also identify minority group of municipalities where the drop in revenue share followed the rise in the additional tax rate. We have to focus on this group and try to find common characteristics. The following table shows minority groups in all three periods during the Great Depression:

Table 13 - List of municipalities where the drop in revenue share followed the rise in the rates

1928-1930	1930-1933	1928-1933
Banská Bystrica	Český Těšín	Bratislava
Berehovo	Falknov	Hodonín
Bratislava	Handlová	Karlovy Vary
Chrust	Hodonín	Krnov
Komárno	Jablonec	Levice
Košice	Karlovy Vary	Nitra
Levice	Karvinná	Nové Zámky
Mukačevo	Kladno	Nový Jičín
Nový Jičín	Mladá Boleslav	Ostrava
Ružomberok	Nitra	Plzeň
Trnava	Nový Bohumín	Trnava
Žilina	Nový Jičín	Varnsdorf
	Petřvald	Znojmo
	Plzeň	
	Rakovník	
	Rybáře	
	Šumperk	
	Trutnov	
	Vejprty	
	Žatec	

The first column shows municipalities almost only from Slovakia and Subcarpathia.

This means that tax policy was not conducted well in these lands in the early period of Depression. When comparing first and second column we can conclude that, with exception of Nový Jičín, municipalities did not repeat their mistake. On the contrary, the municipalities of Bohemian and Moravian-Silesian lands substantially prevail in the later period. Focusing on the whole surveyed period reveals that municipalities from all lands are present with exception of Subcarpathia. There are also municipalities from the whole range of number of inhabitants, metropolitan cities (Bratislava) as well as towns with around 10,000 inhabitants.

Conclusion

The main finding of this paper is that the additional tax system of sub-central governments in Czechoslovakia did not contribute to deepening nor prolonging of the Great Depression in the early thirties of the last century. We did not prove generally negative effects of tax policy of the surveyed sample on the local economy. What is more, revenues from additional taxes were only a small part of all public budgets.

However, we can indicate the minority group of municipalities where tax policy caused deterioration in tax bases as a result of the distortion of economic activity. These municipalities were spread over the country in all four lands. Our analysis detects that we would find this type of municipalities in Slovakia in the early period of the Depression. In the later period, unacceptable tax policy was detected rather in Czech and Moravian-Silesian Lands. What is interesting, we indicated that the Great Depression deteriorated tax revenue in our sample of bigger towns more than the rest of the republic.

Regarding main finding of this paper we consider implementation of additional tax limits as a very foresightful tool. This feature of tax reform from 1927 was strongly criticised at that time but it constrained from rising additional taxes on extreme rates of thousand per cents as it had happened in the early twenties. Additional tax limits became less strict during the Great Depression but it worked successfully.

According to our estimation optimal rate of effective additional tax, that maximized tax revenues, could reach a range of 410 - 440 % but there is no obvious trend during the surveyed period. We also claim that sub-central governments in the majority of municipalities did not reach optimal tax rates. It can be a result of bad coordination of the tax policy at three levels of sub-central governments.