

## “Issues in Fiscal Need Equalization in Germany”

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### **Abstract:**

*The purpose of this paper is to shed light on fiscal need equalization in the German fiscal constitution. It provides a brief background to State and Local Government Finance and describes how expenditure needs are calculated. The main focus lies on the system of local fiscal equalization which can be characterized as a vertical equalization scheme with a horizontal effect. The vertical element is mainly expressed by unconditional grants from states to local authorities („Schlüsselzuweisungen“); the horizontal effect arises out of a comparison between fiscal needs and fiscal capacities on the local level. Although this basic mechanism is the same in all German States the estimation and weighting of fiscal need is practised in each State differently. Since this quantification of local expenditure needs is crucial for resource allocation it will be critically discussed.*

**JEL-Classification:** H7

**Keywords:** Fiscal Equalization, Local Public Expenditure, Expenditure Needs

## **1. Introduction**

The allocation of revenue sources within the German federal system entails that local authorities have only revenue sources that are inadequate for financing their local public tasks. This fiscal imbalance puts local governments in a strong dependence on fiscal equalization transfers paid by the State government. Although the size of the overall transfer pool itself may be criticized, one central problem of the German fiscal equalization system at the local level lies in the estimation and weighting of the fiscal need of each municipality. In the context of this paper “local fiscal equalization” is used as a notion for a supplementary fiscal equalization scheme.<sup>1</sup> This means that the assignment of tasks and tax sources (and/or shares of them) among all tiers of government has already be done.

The general purpose of unconditional transfer schemes is either to improve the vertical fiscal balance by providing general-purpose funding to the Subnational level or to improve the horizontal fiscal balance by compensating for fiscal disparities across regions and municipalities. Fiscal disparities refer to the differences across subnational governments in their ability to raise revenue to meet the public expenditure need of their residents. This kind of variation is not only caused to differences in revenue raising capacity but as well as to differences in the cost of providing public services. However, one should take into consideration that those differences may occur for reasons that are out of direct control of Subnational government<sup>2</sup>: On the expenditure side these differences can be caused by demographic change, high or low population density or for geographic reasons; on the revenue side they are determined due to unequal regional economic development, different patterns of industrial specialisation, central versus peripheral position etc.

Furthermore, seen before the background of dynamic economic change associated with globalisation, socio-economic developments are likely to enhance differences in capacity between subnational jurisdictions.<sup>3</sup> Another case is the assignment of exclusive tax sources attributed to the local level, e.g. the corporate business tax that is very sensitive to the economic business cycle. Anyway, given the fact that local economic circumstances can rapidly change, a fiscal equalisation system could be considered by jurisdictions as an

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<sup>1</sup> See Ahmad/Craig, 1997; Hansmeyer/Kops, 1985 (a).

<sup>2</sup> See Buchanan, 2002, p. 3.

insurance against negative future trends concerning their economic position.<sup>4</sup> Therefore, fiscal equalisation is becoming increasingly relevant both economically and politically.

In international practice there are countries that use formulas to equalize both fiscal need and fiscal capacity, countries which equalize only expenditure needs differences between subnational jurisdictions, and countries that use mechanism that equalize only fiscal capacity.<sup>5</sup> Ideally, to achieve an adequate level of equalization, it will be necessary to equalize both fiscal capacity and fiscal needs. The focus in the literature on fiscal equalization has often been on how to determine the size of the grants given to each jurisdiction. Along these lines of the literature, I do not consider incentive effects. Of course, this is an important limitation of the analysis, and more generally one should consider how an equalization scheme affects the choice of tax rate by the local jurisdictions or how the tax rate within a local jurisdiction affects the tax base.<sup>6</sup> But in the spirit of our main conference theme, I want to focus on one particular aspect of the situation, in this case how various indicators for fiscal need influence the grant distribution to local jurisdictions. Another point in question is how different State transfer schemes conform to the basic principles of equal opportunity and allocative efficiency.

This paper seeks to achieve two objectives. First, I seek to provide a comprehensive overview of the alternative approaches that that can be taken to measure local expenditure needs. Facing the difficulties of designing equalization grant schemes with imperfect data, German states have moved ahead with ingenious methodologies to quantify expenditure needs. Second, I explore the implications of different measures for fiscal need by a simple simulation of grant calculation for two hypothetical municipalities in dependence of different State regulations. The paper proceeds as follows. In the next section, a brief overview of the intergovernmental fiscal relations in Germany is given and the requirements for grant transfers to local jurisdictions are stated. In section 3 the basis of the local fiscal equalization scheme is presented. Section 4 then offers a critical discussion of measurement issues with regard to the quantification of fiscal needs. It is in this section that I demonstrate the effects

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<sup>3</sup> This is particularly the case in countries where horizontal fiscal imbalance is the result of geographically concentrated high revenue due to natural resources such as oil in Canada or gas in Australia.

<sup>4</sup> For example Bavaria, nowadays a “rich” State among the German Länder, originally received equalization payments.

<sup>5</sup> See Boex/Martinez-Vazquez, 2004.

on the sum of transfers that are made available to local authorities by the various equalization schemes. Finally, conclusions are drawn in section 5.

## **2. Intergovernmental Fiscal Relations in Germany**

In contrast to the fiscal equalization among the German states (“Länderfinanzausgleich”), which is a horizontal scheme of interstate equalization without central government interference<sup>7</sup>, the German system of local fiscal equalization can be characterized as a vertical equalization scheme with a horizontal effect.<sup>8</sup> Instead of equalization payments among each other the equalization of fiscal disparities between the local authorities is made by lump-sum grants from the state level. Because these grants are different in amount and will be individually allocated to each local government one can speak of an equalization scheme that arises a horizontal effect.

### **2.1 Vertical Assignment of Fiscal Responsibilities**

Germany is constitutionally a federal country with three levels, the federal level, 16 states, and 12.299 (in 2007) local governments. In fiscal studies, a further differentiation of the local level is relevant, the one of the local government associations. Germany knows so-called ‘Boroughs’ (“Kreisfreie Städte”), which execute all functions of the local government as well as those of the district (“Landkreis”). Yet, the administrative districts are the lowest administrative bodies of the Länder level, executing delegated states functions as well as specific responsibilities of their associated municipalities. With the exception of the administrative districts, all local governments are considered equal in carrying out their responsibilities, although they vary significantly in size, type, economic and administrative capacity, level of development, and revenue.

In general, the German system knows two kinds of local government responsibilities: compulsory tasks which are determined by higher tiers of government and voluntary tasks which are completely determined by the preferences of each local authority and represents in so far an important part of the local autonomy. The vertical distribution of fiscal resources should therefore guarantee that each local authority is able to fulfil both: compulsory and voluntary tasks. In Germany, local governments are part of a complex tax sharing system.

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<sup>6</sup> See Büttner, 2006.

<sup>7</sup> Of course the system of fiscal equalization between the German states contains some vertical elements, the so-called supplemental grants (“Bundesergänzungszuweisungen”), but seen from the main characteristics it is a horizontal equalization scheme.

They participate to the personal income tax revenues and the value added tax revenues. Furthermore they have the competence to levy the so-called “real taxes” (taxes on the gross income of production factors: real estate, enterprise capital<sup>9</sup> and profits, pay roll tax<sup>10</sup>) and local taxes on expenses and excises. Nevertheless, the assignment of revenue sources to the local level is insufficient for financing local public tasks. It appears from table 1 that the local government expenses are not completely financed by local taxes. Therefore the German States are obligated to undertake a fiscal equalization at the local level.<sup>11</sup> Thus round 1/3 of the revenues are descended from the fiscal equalization system.<sup>12</sup> In so far grants from the higher levels of government are playing an important part for the financial equipment of local authorities.

*Table 1: Cover ratio of local expenditure in Germany, 2000-2006*

Year	Type of revenue			
	<i>Taxes</i>	<i>Fees</i>	<i>Grants</i>	<i>Borrowing</i>
2000	35,6	13,2	32,7	0,6
2001	33,1	12,8	31,6	1,9
2002	31,7	12,2	31,9	1,4
2003	31,3	12,2	30,6	4,6
2004	34,3	12,1	31,3	3,2
2005	35,4	11,5	33,0	2,5
2006	37,1	11,2	32,0	n.a.

*Source: Städtetag, 2006, p. 87.*

## **2.2 Horizontal Dimension**

The typical reason in case of a horizontal fiscal equalization system is usually seen in financial disparities between governmental units of the same level. As already mentioned, these disparities are caused by different possibilities to raise own revenues and different local

<sup>8</sup> See Zimmermann/Henke, 2001, p. 201.

<sup>9</sup> The enterprise capital tax was abolished in 1998 and since then local governments receive a share of the value added tax.

<sup>10</sup> The pay roll tax was abolished in 1980 due to high unemployment rates.

<sup>11</sup> Article 106 VII GG, German Constitution.

<sup>12</sup> The revenues of the local level in the five eastern States of Germany are even financed by grants to nearly 50%.

expenditures for the production of publicly provided goods.<sup>13</sup> Measured by this relation of fiscal capacity to fiscal needs there will be as a result some local municipalities which are “rich” and others that are “poor”.<sup>14</sup> If these disparities exceed a certain political limit or induce undesired factor migrations there could be the necessity for equalization to preserve the “uniformity of living conditions”. Although this general trade-off had to be solved mainly by political decisions a system of horizontal equalization necessarily contains of four elements<sup>15</sup>:

1. You have to decide whether the volume of equalization is fixed to a certain amount or if this volume should be the result of certain calculations;
2. You have to determine the fiscal capacity of each jurisdiction at the same level;
3. You have to determine the fiscal needs of each jurisdiction; and
4. After having compared fiscal capacity with fiscal needs you have to take a decision concerning the degree of equalization.

The further explanation of the German fiscal equalization system is oriented to these four steps. After a short description of the normative objectives of the equalization system I will start with the assessment of the equalization fund that is made available by the States, in Germany called “Verbundmasse”, which is followed by the measurement of fiscal needs and fiscal capacity. Last but not least the degree of equalization and its calculation is presented.

### **3. The System of fiscal equalization at the local level in Germany**

All regulations concerning the process of local fiscal equalization are established by the constitution of each State. Since the Federal Republic of Germany consists of 13 “territory” states (“Länder”)<sup>16</sup> no wonder there are 13 different procedures of local fiscal equalization. On the one hand this variety of local fiscal equalization laws can be seen as an expression of fiscal autonomy as well as a competition between different legal regulations. On the other hand the systems as a whole gets more complicated, incomprehensible and unclear. Beside the differences in legal and administrative treatments in the German states the system of local

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<sup>13</sup> See Oakland, 1994.

<sup>14</sup> See Zimmermann, 1999, pp. 101.

<sup>15</sup> See Zimmermann, 1996, p. 59.

<sup>16</sup> The city states Bremen, Hamburg and Berlin are eliminated from the following considerations because there is no necessity for a local fiscal equalization process by logical manner.

fiscal equalization presents a common structure with regard to its overall functions.<sup>17</sup> In a normative sense the equalization scheme should fulfil three main goals:

1. *Fiscal function:* The fiscal function of the local equalization scheme finds its expression in the task of increasing the whole financial capacity of the local level. First of all a system of local equalization has to solve this vertical task, that means it has to be ensured that no local authority drops below the minimum level of fiscal equipment. Otherwise the production of local public goods and in consequence the performance of communal tasks would be impossible.
2. *Distributive function:* In a second step the horizontal dimension of the local equalization scheme can be solved. The reduction of differences in fiscal capacity between each single community is the second central task. Herein the distributive function of the system comes up. In the German constitution (art. 106 III GG) this point is described by the term "uniformity of living conditions".
3. *Regional policy task:* Finally the fiscal equalization scheme is supposed to the function of regional planning, i.e. the arrangement of grants should correspond with the assignment of regional aims that are given by the state.<sup>18</sup> Furthermore there are similarities concerning the quantification of the volume of equalization and its distribution.

Apart from these general objectives the system of local fiscal equalization in Germany is extremely complex and differentiated which makes it difficult to present a common structure. Hence there is the possibility that some main features of the equalization system will be superimposed by specific state regulations. Therefore the following representation can only give a first insight and forgoes deliberately each single State regulation.<sup>19</sup> However, regardless of some differences in detail, the basic mechanism of fiscal equalization at the local level is comparable across the German States (see table 2).

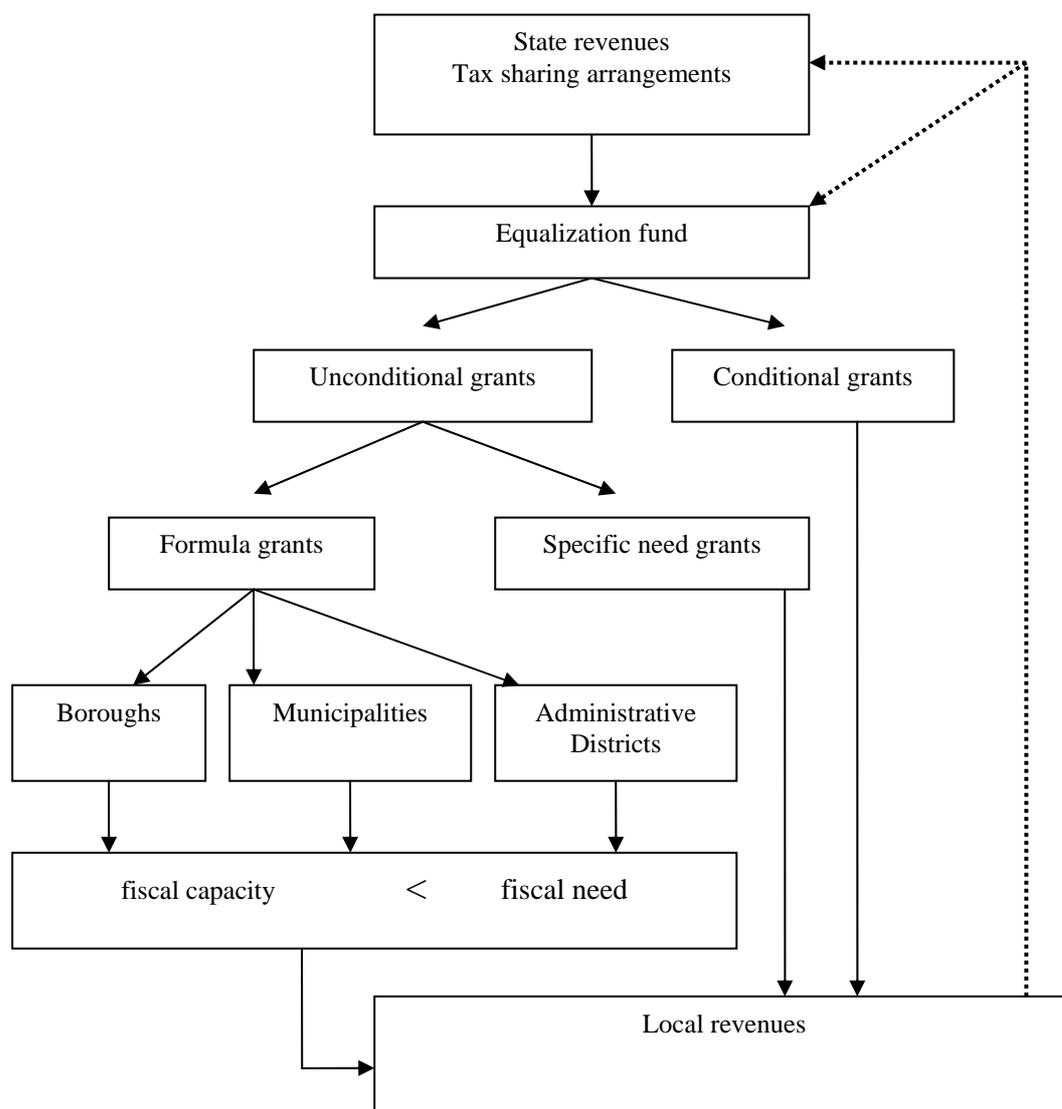
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<sup>17</sup> See Henneke, 1998, p. 131.

<sup>18</sup> See Postlep, 1993, p. 173.

<sup>19</sup> An introduction to the specific State laws is given by Henneke, 2002.

Table 2: Basic structure of local fiscal equalization



Source: own representation.

*Tax sharing as the main source of financing equalization*

The equalization scheme starts with a comparison between State governments fiscal capacity and the fiscal capacity at local government level. From this ratio, the fiscal equalization fund is deduced. By means of this fund each State transfers its municipalities a share of the revenues from taxes as well as from the fiscal equalization system among the States. The equalization fund is essentially financed by a compulsory and optional tax sharing system between the State and the local authorities (about 70%) whereas each state government takes its own decision which optional revenues will be included. A certain percentage of these total

tax revenues is then designated to the local level (“Verbundquote”) and it varies from state to state as well. This percentage is the subject of a bargaining process every year. The product out of the volume of tax sharing and the local quota forms the total volume of the equalization fund, called “Finanzausgleichsmasse”. This fund is divided up by the state government into certain amounts (and/or quotas) for different kinds of grants as well as for the different kinds of local authorities (boroughs, municipalities, administrative districts), but it will be completely distributed among all local tiers.

Subsequently, the equalization fund is subdivided into conditional grants and unconditional transfers. In Germany, these grants can be distinguished between unconditional formula-based grants (“Schlüsselzuweisungen”), unconditional special needs grants for covering high budget deficits (“Bedarfszuweisungen”), and conditional grants for specific purposes like investments (“Zweckzuweisungen”). The first kind of grants represents the main portion and serves as general revenues to be spent for any purpose that local governments pursue; therefore, all further executions are restricted to this type of grants. If the total sum of the equalization volume has been determined the question arises how to distribute these transfers to the single communities. As a reference size for the appropriate assimilation of the financial equipment serves the cover ratio of own fiscal needs and fiscal capacity of a municipality.

#### *Assessment of fiscal needs*

As a starting point for the assessment of fiscal needs the number of inhabitants is used. Subsequently, this initial size is then "refined" which means that each inhabitant does not enter the calculation with the factor one. Instead a weighting of the number of inhabitants is practiced which increases with the size of population. This procedure is based on the hypotheses that the per capita fiscal requirement increases with a higher population density. The underlying theoretical assumption is still Brecht`s law of higher per capita expenditures of larger cities. The revised extensions of the number of inhabitants vary from state to state and are listed in the so-called "head extension squadron". Table 3 shows a survey of these different extensions.

Table 3: Head extension squadron

Type	State	Head extension				Modification	Additional Factors
		Number of inhabitants	Weighting rate	Number of inhabitants	Weighting rate		
I.	Mecklenburg -Western Pomerania	None				None	None
	Schleswig-Holstein	None				None	None
II.	Rhineland-Palatinate	None				None	1. military forces 2. regional centrality 3. pupils 4. area 5. health resort
III.	Hesse	< 5.000	107%	>50.000	130%	Regional centrality: low 125% middle 130% high 140%	1. military forces 2. population development (>10% last 10 years) 3. pupils
	Saarland	<5.000	104%	200.000	133%	None	1. military forces 2. children 3. roads 4. mining 5. health resort 6. regional centrality
	Saxony	<1.500	100%	>40.000-55.000	162,5%	Boroughs >= 20.000 inhabitants: + 1% < 20.000 inhabitants: + 0,5%	1.pupils
	Saxony-Anhalt	<5.000	100%	>25.000-60.000	118-125%	None	None
IV.	Baden-Wuerttemberg	<3.000	100%	>600.000	186%	None	1. military forces 2. police officers 3. students
	Brandenburg	<2.500	100%	>55.000	128%	5 types of regional centrality: Spread from 103 to 123	None
	Lower Saxony	<10.000	100%	>500.000	180%	None	None
V.	Bavaria	<5.000	108%	>500.000+10 0.000	150%+1%	Boroughs: + 10% of head extension	1. military forces 2. economic structure 3. social welfare
	North Rhine-Westphalia	<25.000	100%	>634.000	157%	None	1. pupils 2. social welfare 3. regional centrality
	Thuringia	<3.000	100%	>200.000	150%	Boroughs: + 5% City of Erfurt: 150%	None

Source: Henneke, 2006, p. 420.

Next to this weighted number of inhabitants which is the basic approach for measuring fiscal needs most state laws include modifications and other additional factors. These supplementary extensions mostly have its origin in special local characteristics (e. g. members of foreign military forces, number of pupils, etc.) and should grasp separate states of affairs that increase the fiscal need of a local authority. In order to pursue the goal of a precise measurement of fiscal needs those extraordinary fiscal needs will find its consideration by another increase in the number of inhabitants (additional factors).

In a second step the actual and/or refined number of inhabitants is then multiplied with a uniform factor, the so-called basic amount. This basic amount is fixed so that the volume of unconditional grants that has to be distributed among all local authorities gets totally exhausted. Each variation in the bases of the total volume of fiscal equalization (inhabitant number, indicator of tax capacity, assignment volume) influences this factor itself. Therefore the basic amount is nothing more than a pure calculation size which has to be determined annually new.

#### *Measurement of fiscal capacity*

Generally, in order to evoke no distorting effects by the measurement of local fiscal capacity all kind of municipal revenues should be included as complete as possible.<sup>20</sup> Far away from state specific peculiarities and differences in the fiscal equalization laws there are no differences in regard to the local taxes that have to be included. In Germany the indicator for local tax capacity is determined by adding up the tax capacity of the local business tax, the real estate tax (type A and B) and the local authority share of the personal income tax as well as the value added tax.<sup>21</sup> Whereas the tax capacity of both local tax shares is measured by the actual revenues it is necessary to standardize the revenues of the real taxes.<sup>22</sup> Otherwise the local authority would have an incentive for strategic behaviour if the tax capacity would be measured by the real revenues. By lowering the tax multiplier it would be possible to attract additional enterprises due to a diminished tax burden. On the other hand the lessened local tax revenues would be compensated by higher unconditional grants. So far the measurement of fiscal capacity is criticized for two reasons. First, the calculation is limited only to the most

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<sup>20</sup> Hardt, 1988, pp. 46.

<sup>21</sup> Rummel, 1999, p. 195.

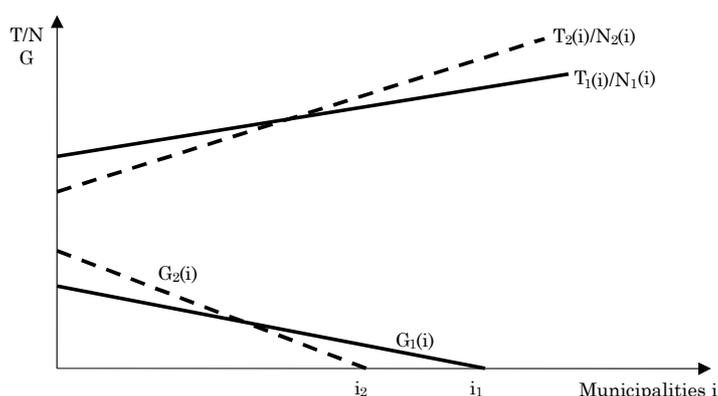
<sup>22</sup> Fischer, 1988, p. 100.

important municipal taxes.<sup>23</sup> Second, the used average tax multiplier causes serious distortions with regard to the real municipal tax revenues.<sup>24</sup>

### Rules and degree of equalization

As already mentioned, fiscal needs are expressed by the weighted indicator of inhabitants, the financial equipment which is de facto reduced to local tax capacity by the indicator for fiscal capacity. If the indicator for fiscal needs exceeds the indicator for fiscal capacity a partial (according to the state laws) equalization between both sizes is realized by the assignment of unconditional grants (as shown in table 2). Based on these separate calculations of fiscal strength and fiscal requirement there is the necessity of an additional decision concerning the degree of equalization.

Table 4: The mechanism of redistribution



Source: Kuhn, 1993, p. 358.

The fiscal equalization scheme generates an order of all municipalities according to the monotonic increase of the tax-need-ratio ( $T_1/N_1$ ) as shown above in table 4. The lower the ratio of a municipality  $i$  the higher will be the equalization grant ( $G_1$ ). Referring to this order, the equalization transfer falls down to the municipality ( $i_1$ ) which separates the entitled municipalities from those local jurisdictions that do not receive any grant. As shown in situation 2, with increasing fiscal disparities between municipalities more grants will be asserted to the most indigent municipalities so that richer local jurisdictions drop out more and more. In this case the function of the tax-need-ratio ( $T_2/N_2$ ) rises more steeply, while the corresponding equalization grants ( $G_2$ ) declines more rapidly. In consequence, fewer

<sup>23</sup> This aspect is no further pursued in this paper. For more details see Broer, 2001.  
<sup>24</sup> See Otter, 2003.

municipalities will receive a bigger portion of the equalization fund. Given less fiscal disparities, the result is reverse (as shown in situation 1).

These preliminary remarks are meant to serve as a background to the following paragraph on the measurement of fiscal needs which has been widely discussed in Germany. Mainly whether, to what extent, and why the local fiscal equalization scheme shows a significant divergence between all jurisdictions, especially between small and large municipalities. Since the quantification of local expenditure needs is crucial for the allocation of unconditional grants we will expatiate on it in the next paragraph.

#### **4. Critical Issues on the Measurement of Local Fiscal Needs**

In practice, the system of local fiscal equalization is not very transparent and shows some allocative distortions. Systematic deficiencies are present in almost all alliance states. The following section will discuss some of the most pressing problems: above all the assessment of the fiscal equalization fund (4.1) and the meaning of the number of inhabitants and its refinement as the main indicator of fiscal needs (4.2).

##### **4.1 The Political Economy of the Equalization Fund**

Whether the fiscal objectives of the fiscal equalization system are reached essentially depends on the volume of the equalization fund that is made available by each state. This decision will determine to which extent the fiscal gap between actual fiscal needs and real municipal tax power will be closed. The predefinition of a fixed transfer volume is discontent because there is no adequate linkage with regard to all communal tasks. Before the volume of equalization is determined in general and the process of fiscal equalization is carried out there is the requirement to analyse the structure and costs of all tasks that have been assigned to the local authorities. An adequate determination of the equalization volume can only be achieved when the tasks of the state and the communities are set in relation to each other and are compared with their characteristic revenues.<sup>25</sup> The actual determination of the equalization volume by the German states is intend the sum for be distributed without an empirical determination of the actual financial requirement of the municipalities. Therefore the financial equalization

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<sup>25</sup> See Lenk/Birke, 1998, p. 201.

fund appears sooner as a non-essential sum that can be given away by the state government as an adequate compensation for financing local public tasks.<sup>26</sup>

Apart from this the volume of transfers is single-sided determined by each state government. The state laws concerning the local fiscal equalization schemes for example contain no single rule which systematically handles the amount of transfers.<sup>27</sup> That means an important part of the equalization system is left out of the fiscal constitution. Closely connected with this problem mentioned above are abridgments of the volume of equalization that were undertaken by some federal states in order to consolidate their own state budget. In fact this was the case in Lower Saxony where the state court of justice decided to bear out the action ex delicto of 36 municipalities against the state.<sup>28</sup> No wonder, the equalization fund has been characterized as a “reserve cash box” for the state government.<sup>29</sup>

## **4.2 On the Use of Fiscal Needs Indicators**

The special difficulty of an equalization system is to be seen in the objectification and quantifying of the initial sizes. Therefore, it is of great importance to grasp fiscal needs and fiscal capacity as complete as possible so that the basic question of transfer distribution can be solved alone by the arrangement of the equalization rule. Otherwise distributive effects would be obtained only by the calculation method instead of the net fiscal position of the municipalities.

### **4.2.1 The number of inhabitants as the central indicator for fiscal needs - a critical assessment**

One of the main practical problems of the local fiscal equalization scheme is still the “correct” assessment of fiscal needs. Presently, only the unconditional grants can count as a transfer element that falls back upon an operational mode for the determination of local fiscal needs. The dominating element underlying this scheme is simply the number of residents.<sup>30</sup> As long as there are no spill-over effects this seems to be legitimate since the users of public goods are always the inhabitants of a municipality. This is reasonable since a growing population makes

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<sup>26</sup> See Grosseketler, 1987, p. 425.

<sup>27</sup> See Wohltmann, 2001, p. 99f.

<sup>28</sup> See Karrenberg/Münstermann, 1998.

<sup>29</sup> Henneke, 1994, p. 4.

<sup>30</sup> The historical background is discussed by Hansmeyer/Kops, 1985 (b).

a greater demand on public production. In addition, it seems quite plausible that all citizens have homogeneous claims in regard to the municipal achievements. Furthermore, a strong differentiated offer of public goods might politically not be desired. Hence, the fundamental thesis sounds at first sight: inhabitant equal inhabitant.<sup>31</sup> But as already mentioned above substantial differences in fiscal needs become either transformed by the “refinement” of the number of inhabitants or are taken into account by additional parameters. The weighting of inhabitants is subject of most controversial discussions. Despite of the plausibility of this proceeding the definition of the weighting scale appears to be difficult and can be sceptically regarded for several reasons:

1. Local public spending is not an inevitable response to an objective spectrum of local public tasks. It rather seems to be determined by political decisions as well as by local revenues or intergovernmental transfers. In other words, municipalities with a strong fiscal capacity often have the highest spending but do they have the highest “need”? Although it might be possible to control these variables in regression analysis, local public tasks that cannot be produced due to fiscal imbalance will not be regarded as fiscal needs. Hence, even this “objective” assessment of fiscal needs is impossible to achieve by means of real budget figures.
2. Already existing regression analyses of public production costs and municipality size have shown inconsistent outcomes regarding the different local public goods.<sup>32</sup> Both diseconomies of scale (e.g. traffic infrastructure) as well as economies of scale (e.g. sewage disposal, school buildings, public administration) have been found.<sup>33</sup> Furthermore, cost leaps and constant average costs have been measured with regard to an increasing population. Furthermore, it can be proven as well that thinly populated regions sometimes have significantly higher costs than regions with an average population density.<sup>34</sup> These results qualify the hypotheses that fiscal needs grow with an increasing population. In consequence, these results prompts the supposition that there is further influencing factors besides the number of inhabitants. The analysis of total spending probably covers single significant relations in the respective department and neglects the characteristics of the provided local goods.<sup>35</sup> It is argued that in

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<sup>31</sup> See Hardt/Schmidt, 1998, p. 117.

<sup>32</sup> See Seitz, 2000.

<sup>33</sup> See Lenk/Birke, 1998, p. 222.

<sup>34</sup> Wohltmann, 2001, p. 103.

<sup>35</sup> Møller/Pedersen, 2001, p. 9.

reality rather a U-shaped curve of average costs represents the relation between unit costs and municipality size. Seen before this background the clear definition of the weighting scale is difficult to deduce. Considerable distinctions in the weighting scale of different German States give further empirical evidence for this uncertainty.

3. From a more normative point of view, the weighting of the population may be justified as a means to compensate for spill-over effects. The underlying assumption is the observation that high-populated cities often hold central positions within a region and offer a certain public infrastructure not only for themselves but also for the surrounding rural areas.<sup>36</sup> But in this case the weighting of population is not a suitable instrument for internalisation because the intensity of external effects does not have to be affected by the municipality size in Germany. Consequently, several municipalities fulfil similar regional functions without being weighted higher just due to their minor population size. In the end this leads to financial discrimination against smaller, but central municipalities, whereas larger municipalities without central regional functions benefit from this regulation on the other hand. In this case fiscal needs of local authorities should be recorded more precisely by direct consideration of the central function.
4. Furthermore, the population of large agglomerations benefit from rural areas, e.g. as recreation areas. If these benefits were taken into account the question regarding net external effects arises. Then multiplicity of external effects causes uncertainties in quantifying. Once again, the weighting of inhabitants is not the best instrument in order to balance for external effects automatically.<sup>37</sup> In spite of the emerging discussion on integrating environmental aspects within the measurement of fiscal needs, these functions are still neglected.<sup>38</sup>
5. The above mentioned shortcomings of the population weighting has initiated the creation of additional indicators in some German States, which should not only reduce the importance of the main indicator but also increase the precision of the measurement of local fiscal needs. Several other parameters are considered in the assessment of local fiscal needs such as the number of pupils or the number of recipients of social welfare. These additional factors are added on the number of

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<sup>36</sup> See the theory of central places. Krugman, 1995, gives a critical review of this literature. See also Neenan, 1970; Bradford/Oates 1974.

<sup>37</sup> See Dietrich, 1997, p. 142.

<sup>38</sup> See Wohltmann, 2001; Rose, 1999; Ring, 2000.

inhabitants as notional inhabitants. Due to the fact that the sum of all measures for substantial differences in fiscal needs is multiplied by the monetary factor which is established as a homogenous per capita financial amount. This amount is determined that the disposable fund will be exhausted entirely. Thus, the fiscal needs become endogenous and represents only a hypothetical quantity that is independent from the actual costs of local public tasks.

Hence, only the compensation for urban agglomeration costs remains as a reasonable explanation of the population weighting.<sup>39</sup> Moreover, large agglomerations are much older than the system of population weighting. According to this, they must have certain advantages such as economies of scale, whereas the population weighting bases on the assumption of diseconomies of scale. However, the system of weighted inhabitants combined with indicators for extraordinary fiscal needs takes the fact for granted that Brecht's law is true at all. Or, to put it in other words, that these special fiscal needs of larger municipalities already exist. It should be clear that this proceeding requires a proper definition of the used indicators and that the additional fiscal needs are traceable. However, the fictional increase of fiscal needs is made in no way well-balanced and reasonable.<sup>40</sup> Instead, the reason for this transformation and their specific weighting scales remain unclear.<sup>41</sup> The system of weighted inhabitants rather appears as a product of political ratios and old-fashioned traditions.<sup>42</sup>

#### **4.2.2 Simulation of Different Fiscal Needs Indicators**

The following simulation of the effects of different State equalization systems is based on the construction of typical "model municipalities". The underlying socio-economic characteristics of the municipalities are calculated on the average of all German local jurisdictions.

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<sup>39</sup> This view can be criticized as well since the disadvantages of urban agglomeration (e.g. pollution, congestion, or increasing crime rate) serves as an automatic stabilizers of regional diversification that should not be distorted. The responsible party is meant to feel these disadvantages for the sake of optimal factor allocation. See Bogart, 1998, p. 12.

<sup>40</sup> See Zimmermann et al., 1987, p. 393.

<sup>41</sup> See Kuhn, 1995, p. 107f.

<sup>42</sup> See Hanusch/Kuhn, 1985.

Table 5: Simulation of different grants transfers

		<b>Municipality A</b>	<b>Municipality B</b>	<b>Municipality C</b>
<b>Inhabitants</b>		176.000	30.900	4.970
<b>Fiscal Needs (€per inhabitant)</b>	Schleswig-Holstein	734,22	734,22	734,22
	Rhineland-Palatinate	871,80	869,17	793,44
	Hesse	922,98	744,57	612,46
	Saarland	722,75	618,91	657,21
	Baden-Wuerttemberg	1.123,60	897,00	769,10
	Lower Saxony	919,78	674,08	583,62
	Bavaria	790,71	706,53	599,13
	North Rhine-Westphalia	1.031,94	882,88	890,63
<b>Fiscal capacity (€per inhabitant)</b>	Schleswig-Holstein	535,98	874,59	572,36
	Rhineland-Palatinate	559,46	934,52	610,85
	Hesse	564,76	953,47	630,23
	Saarland	576,85	979,86	646,67
	Baden-Wuerttemberg	550,50	906,09	591,26
	Lower Saxony	563,06	931,19	605,50
	Bavaria	560,51	933,15	610,95
	North Rhine-Westphalia	605,71	1032,08	673,11
<b>Unconditional grants (€per inhabitant)</b>	Schleswig-Holstein	112,60	0,00	109,12
	Rhineland-Palatinate	85,03	23,50	90,99
	Hesse	255,47	9,20	43,15
	Saarland	259,17	1,27	104,78
	Baden-Wuerttemberg	646,59	97,27	174,60
	Lower Saxony	347,32	0,00	116,89
	Bavaria	168,59	0,00	45,83
	North Rhine-Westphalia	421,60	0,00	176,08

Source: own compilation based on Sauckel, 2006.

The main result is quite simple: the fiscal position of a German municipality depends strongly on its geographic position and the corresponding State equalization laws. After the equalization transfers have been paid even the order of municipalities – as measured by the relation between fiscal needs and fiscal capacity – has sometimes changed. Especially the weighting of inhabitants causes distortions between different local jurisdictions that do not correspond to real circumstances. Although in most States small municipalities are

predominant they are often neglected or underestimated by the weighting scale. Even if the equalization system uses additional factors for the measurement of fiscal needs this statement hold because mainly large municipalities are profiting from the chosen characteristics. Furthermore, the different weighting scales show considerable jump discontinuities. Only little differences in the number of inhabitants are in some States inducing great differences in the calculation of fiscal needs. On the other hand, you find municipalities that have only little disparities in fiscal needs but are significantly different in size; which is especially true when the equalization system uses the additional factor of regional centrality.

## **5. Conclusion**

The most pressing problem of local fiscal equalization in Germany is the significant vertical imbalance between expenditures and revenues at the local level of government. This truly has consequent implications for local autonomy, efficiency and political accountability. But this rather seems to be a political problem than an economic one. As long as the local level has only insufficient political rights to influence the fiscal equalization scheme disproportions between tasks, expenditures and revenues will still endure. At present the State government is able to determine the distribution of equalization transfers by the appointment of all essential parameters that are used in the equalization scheme. Although the whole equalization scheme is formula-based it is highly vulnerable to strategic behaviour. State politicians are able to influence the distribution of grants by the definition of expenditure needs assessment. Local politicians have the ability to manipulate fiscal needs of their jurisdiction by the level of public services. As far as the other problems noted above in relation to the present system are concerned, it has repeatedly been argued that these problems could be addressed by giving more tax raising powers to local governments.

The discussion on “objective” fiscal needs seems to be a “never ending story”. The reasons are merely some imperfections of the equalization scheme itself; it is rather the effect that all named assessments of the fiscal equalization scheme interact in the same direction. With regard to the measurement of fiscal needs solely disadvantages of agglomerations are considered. Concerning the determination of fiscal capacity it has already been pointed out in the literature that the used calculation method leads to a systematic underestimation of real

tax capacity.<sup>43</sup> As a result, large local governments are preferred by the equalization system. Measured by the objectives of the German local equalization system, already mentioned in section 3, fiscal equalization transfers to the local level do not fulfil their intended function.

However, the developments discussed in this paper provide an interesting case study of the problems arising from attempts to pursue multiple policy objectives with a single policy instrument, in this case the local equalization system. The traditional equalization objectives remain but the importance attached to other objectives like the regional growth perspective has increased significantly in Germany over the last 5 years. If large metropolitan areas are benefiting from the local fiscal equalization scheme then such advantages could be justified by means of allocation: As long as central cities and large agglomerations produce a greater contribution to the regional gross national product than small municipalities or thinly populated regions the preferential treatment seems quite reasonable. Otherwise negative incentive effects and slower economic growth might become apparent. In so far a judgement about the German systems depends as well on the underlying assumptions concerning regional growth policy.

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<sup>43</sup> See Otter, 2003; Wohltmann, 2001; Broer, 2001.

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