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Expenditure needs equalization – reasoning and organization of work: the Danish case

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Abtract

The Danish system of equalization of expenditure needs is seen as a relevant and integrated part of the general financial system. On this background the way of measuring expenditure needs is analysed. In the Danish way of thinking the normative production function approach is ruled out in favour of the expenditure approach, aiming at measuring needs from observed data, but containing a problem of supply side factors. Statistical analyses are used to identify needs criteria, being however only one step in a longer procedure involving identification of potential needs criteria according to certain requirements of objectivity and choosing the best criteria taking into account e.g. negative parameter values and incentives. The procedure helps to secure a stable system which can be "translated" to the politicians. The work with expenditure needs, with connection to the way of reasoning, is centred around the Finance Committee, involving Ministry of Interior, Ministry of Finance, line ministries and local governments' organizations. The corporative model of organizing the work of establishing proposals for new expenditure needs criteria via the Finance Committee, including both technical preparation and assessment of alternatives, has been stable for a long period, and is evaluated according to three parameters: reliability, future-orientation and pragmatism.

Content

Expenditure needs equalization – reasoning and organization of work: the Danish case[1]

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1. Introduction - the case for expenditure needs equalization

The purpose of this paper is to present the Danish way of reasoning about expenditure needs and equalization, and how the work is organized about those items in Denmark, perhaps with some connection or interaction between reasoning and organization. The first section is about the needs for this kind of equalization. Section 2 describes the Danish discussion on how to measure expenditure needs and finally section 3 deals with organization of work.

1.1. Introduction – varying economic conditions across local governments

Expenditure needs vary across municipalities, though less than revenues – see *table 1.1*.

In Denmark, many municipalities have been merged in 2007 and the number of municipalities has been reduced from 271 to 98. Bigger municipalities seem to mean less variation in economic conditions, which shown in table 1.1, comparing the two columns. The effect of merging on variation is however not dramatic.

Table 1.1. Variation in tax bases and expenditure needs, before and after merging of municipalities (2006-data for 271 and 98 municipalities respectively with same tasks).

Amounts in DKK 2006	Tax base per inhabitant		Expenditure needs per inhab.	
	271 mun.s	98 mun.s	271 mun.s	98 mun.s
Minimum	107,047	114,972	32,359	32,829
Maksimum	297,638	267,766	43,063	42,410
Range of distribution	190,592	152,794	10,704	9,581
Average (weigthed)	142,081	142,081	36,901	36,901
Standard deviation (weighted)	28,175	27,319	1,537	1,305

[1] I have received many relevant and very useful comments from Jørgen Lotz, Ministry of Finance, which I am grateful for and hope to have used in a satisfactory manner. In the Ministry of Interior and Health I have had good assistance from Dorte Lemmich Madsen for calculations for the figures as well as comments to the paper and from Niels Boye Morving, who has prepared the tables. I am of course the only responsible both for the use of comments and data.

Because of smaller variance the differences in expenditure needs necessitates fewer transfers than differences in tax base.[2] This is illustrated in *table 1.2.* The size of transfers due to expenditure needs equalization can, however, far from be neglected.

Table 1.2. Equalizations transfers due to variation in expenditure needs and tax bases, 2008.

Equalization-payments, gross (+ = reduced payment) [1]	Expenditure needs, mill.DKK	Expenditure needs, pct. of tax base	Tax base, mill. DKK	Tax base, pct. of tax base
nation-wide equal. scheme[2]	3.046	0.4	6.770	0.8
metropolitan equal. scheme	525	0.2	1.584	0.5
Equal.scheme for municip's in unfavourable ec.sit.	837	0.2	2.330	0.7
Block grants	-298	-0.0		
Biggest loss		6.2		4.5
Biggest gain		-3.2		-9.1
Total	**4.111**	**0.5**	**7.811**	**1.0**

[1] I.e. reduced payments equalization system. [2] Including corrections for over-equalization.

Note: computed by comparing two situations – the existing situations versus a system with respectively no differences in expenditure needs and tax bases per inhabitant.

1.2. Expenditure needs criteria

The measure of expenditure needs is based on so-called objective needs criteria (see further the next section), which are categorized into:

- demographic criteria (weight 70 %)
- socio-economic criteria (weight 30 %)

The weights of the socio-economic and demographic criteria respectively are computed in accordance with the relevant expenditure shares. In Denmark local authorities are responsible for a number of social expenditures like income transfers, expenditures concerning disabled persons etc. The "needs" arising from these expenditures are allocated to the socio-economic criteria. "Needs" arising from other local expenditures – usually public consumption like schools, kindergartens etc – are assigned the demographic criteria.

The weights of the single *demographic criteria* are equal to the expenditure shares of the relevant expenditure areas calculated annually from the municipal accounts.

[2] The Danish equalization system and different schemes will not be described here. To get an impression of the system see formula in Appendix A and Mau Pedersen (2007, chp. IV).

The weights of the *socio-economic criteria*, however, are fixed by law. Those criteria are meant as “umbrella-variables” to measure social pressure, and are presented as a so-called ‘socio-economic index’.

2007-weights for both demographic and socio-economic criteria are shown in *table 1.3* below. In appendix B the weights are compared with criteria in Norway and The Netherlands.

Table 1.3. Weights of expenditure needs criteria in Denmark (Nation-wide equalization scheme (“Landsudligningen”), 2007.

Demographic exp. needs criteria	**Weight, pct.**	**Socio-economic exp. needs criteria**	**Weight, pct**
Age groups:		20-59 years unemployed > 5%*	*5.4*
0-6	*9.8*	25-49 years without vocational training*	*5.2*
7-16	*21.1*	Rented dwellings*	*1.5*
17-19	*1.1*	Psychiatric patients*	*1.5*
20-24	*2.0*	Families in certain types of dwellings*	*4.5*
25-34	*5.4*	Children in poorly educated families*	*4.5*
35-39	*2.9*	Single more than 65 years old*	*0.7*
40-64	*11.7*	Low income individuals*	*3.0*
65-74	*4.2*	Handicapped*	*1.5*
85 years or more	*5.6*	Immigrants and descendants*	*0.7*
Commuting time	*4.8*	Number of living years lost*	*0.7*
	1.4	Decline in population numbers*	*0.7*
		Total	**100.0**

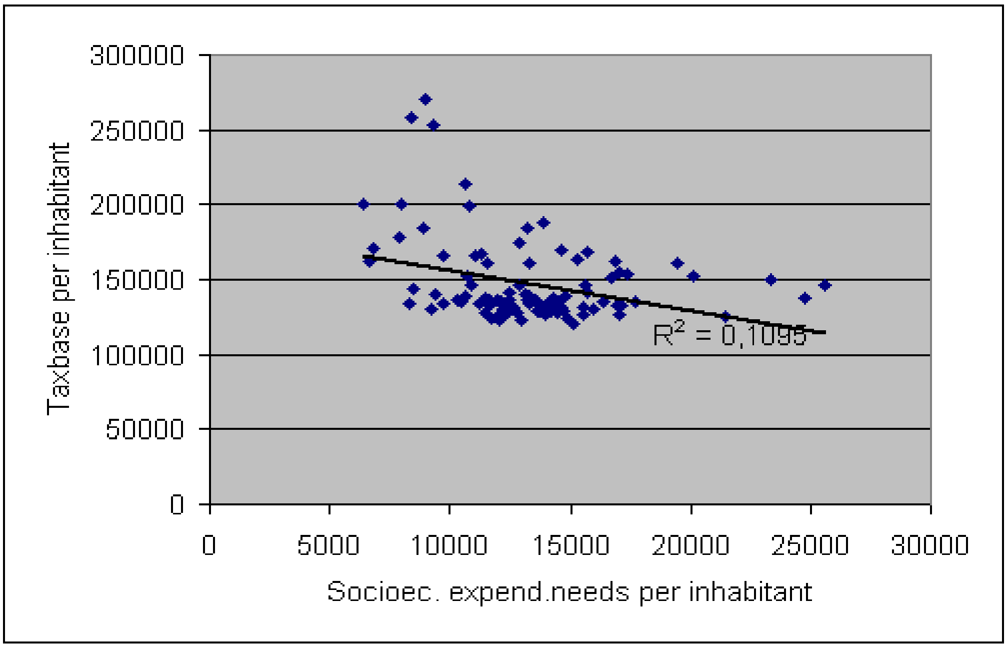
Source: Indenrigs- og Sundhedsministeriet. * = criteria included in socio-economic index.

1.3. Expenditure needs equalization – is it needed?

It has occasionally been discussed in Denmark whether the expenditure needs equalization, and especially the socio-economic part, is really necessary. The conclusion of the government, cf. Finansieringsudvalget (2004), is that the expenditure needs scheme including socio-economic criteria *is* needed.

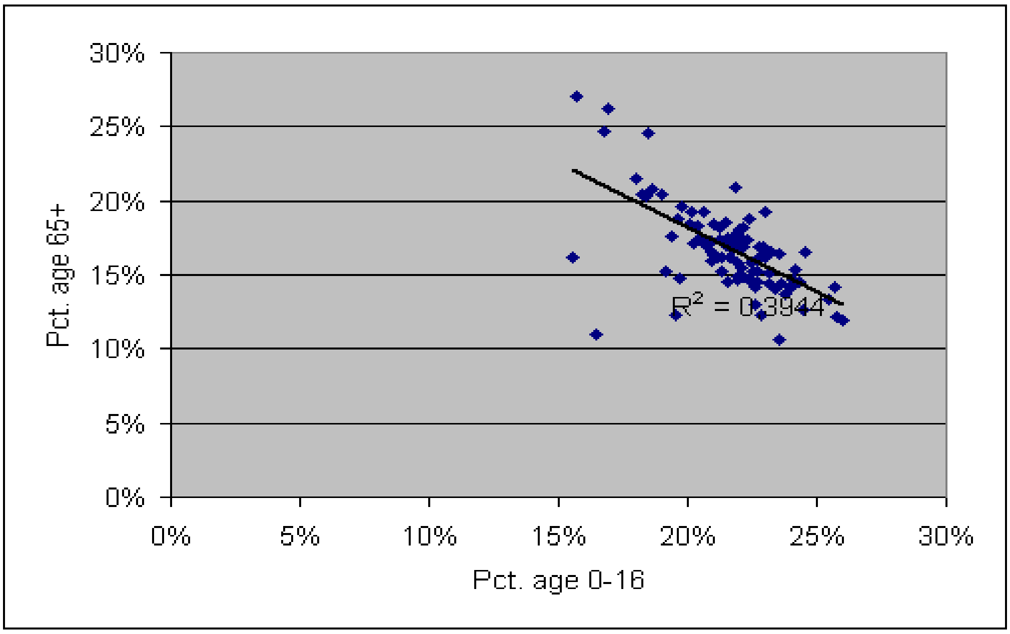
A theoretical argument against the necessity of the socio-economic part of expenditure needs equalization is that revenue equalization might cover both aspects of equalization. This would be the case if *socio-economic needs vary positively with tax base*. The hypotheses would be that social pressure is a phenomenon linked with urban areas, and since urban areas also have the highest taxable incomes then the socio-economic equalization purpose might be fulfilled via the revenue equalization system. However as can be seen from *figure 1.1* this correlation is only very weak.

Figure 1.1. Correlation between socio-economic expenditure needs and tax base (data for 2008 equalization).



It has also been argued that *demographic differences are small and tend to be level out* since municipalities with e.g. many children in school and kindergarten age groups (31 pct. of the demographic criteria cf. table 1.3) will be characterized by rather few elderly persons (about 15 pct. of criteria). If so, then equalization of needs is simply unnecessary. This hypothesis has more, however still rather weak, empirical support from Danish data, cf. *figure 1.2* below.

Figure 1.2. Correlation between number of children and number of elderly persons, 2007.



2. What is the Danish reasoning behind equalization of expenditure needs?

This section describes the arguments made in the Danish discussion of the measurement of expenditure needs for equalization. The sources are partly official reports and white papers.

2.1. The demand function

The Danish local government sector is in charge of the major part of public sector tasks and most public employees have a local government employer. In principle, the local governments have considerable degrees of autonomy to decide the service level in accordance with citizens' preferences, although the degree of freedom is more pronounced on some fields (i.e. kindergartens) than on others (i.e. schools). Also, local governments are engaged in social security payments such as cash benefit schemes and social pensions, but here the autonomy is much less significant and local authorities are mainly agents for the Central Government and the national Parliament carrying out national redistributive policies. Also on those areas, however, the municipalities typically have some freedom to choose between different kinds of social transfers and arrangements.

All in all it seems natural in a Danish context to consider the expenditures of municipalities as a result of the demand from citizens.[3] On this background a starting point for expressing expenditure needs are the demand, *D*, and the demand function:[4] [5]

$$D = P_G\, G\,(y, p_g, X, N) \qquad (1)$$

Some of those variables may be recognized for equalization as expenditure needs that should be equalized – others not.

The prize- (or cost-) factor for inputs used by the municipality, P_G, will normally – or for the most part – be outside the control of the local authority and should therefore in principle be included in the calculation of expenditure needs. However, if this factor does not vary significantly across local governments it might for simplicity reasons be omitted from the equalization calculations. In the Danish case both the lack of high quality local prize-statistics and simplification purposes have resulted in an equalization system without prize-/cost factors. However, the argument that prizes on inputs for local production are higher in urbanized areas has been used to defend a decision to reduce the equalization level.[6]

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[3] The question of how well the local political process actually reflects the demands of the citizens or other motives for elected officials and local employees plays a role is not taken up in this paper.

[4] Alternatively, the activities of local governments might be considered in close connection with Central Government's orders.

[5] See Indenrigs- og Sundhedsministeriet (2000) and Mau Pedersen & Møller (2001) for an empirical test on this equation.

[6] The level was reduced by 5 percentage points, cf. Indenrigsministeriet (1995) and Indenrigs- og Sundhedsministeriet (2004, chp.21). It has been shown that this had almost equivalent consequences as taking into account different in prizes, i.e. in practice local wages.

The income-factor, *y* (the average level of income and tax base in the municipality), might be seen as a legitimate expenditure needs factor that should be equalized (low income connected with high social expenditures in certain areas), as well as a factor connected with preferences that should *not* be included in equalization (high income generating high demand of local public goods). Because of those difficulties this variable is omitted from the expenditure needs relation, but an expenditure needs factor connected with low income in certain households is included directly into the needs-factor, N (cf. table 1.3 above).

Since prizes are also determining local demands the prize seen from the citizen, p_G, might also be considered as a possible variable for equalization. Of course this prize factor is linked to P_G, but moreover the prize seen from the citizen depends on the character of the local public good. If it is – or being close to - a 'pure' public good, e.g. parks and libraries, the prize is higher in sparsely populated areas than in more urban areas. Therefore, in a system of full equalization, this cost- or prize effect should somehow be taking into consideration. The Danish solution to this problem has been – like for y – to include an expression for the expenditure needs of sparsely populated areas directly in the expenditure needs as a criterion, cf. again table 1.3 (the commuting time-criterion).

Concerning preferences, *X*, those should obviously not be included in the relation for expenditure needs since it is not exactly a need. The difficulty is about how to distinguish preferences and needs, cf. below about 'objective factors' supply side effects.

Finally the needs, *N*, should be included in equalization.

2.2. Norms or expenditures?

In principle there are two ways to measure N, the expenditure needs. Either the Central Government attempts to describe the production function (or equivalent the cost function) of the local governments in relevant areas, e.g. schools, nursery homes etc., the *production function-method.* Or alternatively the needs are assessed from the observed expenditures ("revealed preferences") of the single local governments, the *expenditure-method* (see further below).

For the production function approach the Parliament needs to define a service level, e.g. how many elderly people of different categories (very needy, not so needy etc.) should receive care and support in how many hours per week and of a certain quality level. Next conditions of production needs to be taken into account in every municipality, i.e. the topographical and geographical characteristics.

The production function-method is normative in the sense that the needs are computed from the perception of the Parliament of what should be the 'best' way, i.e. the norm of producing and delivering services, including how capital, labour and other inputs are combined in the most effective way.

In a Danish context this production function-method has however only seldom been discussed in relation to the general equalization system. The method requires, cf. Finansieringsudvalget (1978), very good data and knowledge of production possibilities, -

information that the Central Government simply do not have in many circumstances. Besides, the method seems to be in conflict with a decentralized public sector where each authority makes its own calculation and evaluation of the local production circumstances. The only example from recent years, having some relation with a production function-method, was the attempt to calculate expenditures needs for hospitals from – besides age and sex composition – also the composition of diagnoses (DRGs). The way of calculating expenditure needs for hospitals was however never implemented. In the end the Organization of Counties successfully opposed to the method, expressing scepticism about the reliability of the calculations, arguing that results of certain counties seemed difficult to explain compared to "real world experience", cf. Finansieringsudvalget (1993, sect. 2.C).[7]

2.3. The expenditure approach and the supply side problem

Leaving out the normative method the other possibility is to take observed expenditures as statistical basis for needs-analyses. The purpose is to identify needs criteria across municipalities.

The consequence of this approach seems to be that all local needs are to be equalized. At least in Denmark this has been the case.[8]

In principle, we should estimate the structural model for supply and demand, but in practice we have to establish a reduced form model with independent explanatory right hand side variables and observed expenditures, *E*, on the left hand side. The relation (1) now is expanded to (2) with *Z* representing supply side variables:

$$E = P_G\,(y, p_g, X, N, Z) \qquad (2)$$

Concentrating on needs variables the truncated function is:

$$E = f(N) \qquad (3)$$

However, if there is a connection between needs variables and supply side conditions, i.e.:

$$E = g(N, S(N)) \qquad (4)$$

we risk skewed or biased parameter estimates for the needs variables. If for instance we do not equalize expenditure needs correctly it is possible that municipalities with high expenditure needs - because of budget restrictions – need to have a relatively low service level because of lack of resources and that this would erroneous be estimated as a low level of needs.[9] Another example would be the phenomenon 'supply creating

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[7] The DRG-method of calculating the size of grants to regions are, however, applied when distributing conditional acitivity-related grants to regions.

[8] A proposal to exclude some areas from equalization of needs (user financed utilities, land purchases, administration) was not implemented, cf. Finansieringsudvalget (2004, chp. 19).

[9] Cf. Finansieringsudvalget (1982, chp. 8) about lags in adjustment of expenditures to e.g. growth in population. The problem is also discussed in Lotz (1987, chp. 7) and Mau Pedersen (2007, chp. V).

its own demand', e.g. an urbanized area with a high 'density' of hospitals. Here the easy accessibility for potential patients ceteris paribus results in many patients that will be included in the estimates as high needs.

In a Danish context the supply side conditions are generally ignored, presumably because of lack of methods to correct for them. The supply side conditions might be taken into accordance when interpreting the results of the statistical estimations, cf. below. But all in all, the estimates of needs are probably biased because of historical supply side effects. In the real world this may be justified by the fact that local politicians often experience expenditure pressure from e.g. persons with high incomes demanding as a kind of "need".

2.4. Implementing the expenditure approach

2.4.1. Objective criteria

To be able to carry out estimations of expenditure needs criteria we have to pick out some measures that will be possible criteria. In the Danish way of reasoning[10] such potential criteria have to fulfil certain requirements. The criteria should express a 'line of reasoning/causal connection', should 'not be subject to outside influence', and should 'be measurable and computable also by ordinary local authorities'. Se further *box*.

Box . Three requirements for 'objective criteria'.
1) 'line of reasoning/causal connection': to have a robust relationship between criteria and expenditures to be included in the expenditure needs system there has to be a reasonable causal relationship between the criterion and the expenditures. Such arguments are typically easy to articulate for demographic variables but more difficult for so-called umbrella-variables representing socio-economic conditions, e.g. the connection between social expenditures and the character and quality of dwellings.
2) 'not be subject to outside influence': the local governments should not be able to influence the value of the criterion. Again some of the socio-economic variables, e.g. number of unemployed, might be somewhat problematical. In line with this, the so-called local government poverty trap-problem, produced by the revenue and expenditure equalization together, has created much attention in Denmark, cf. PLS-Rambøll (2000).
3) 'measurability': the local governments should themselves be able to control the data for their authority. However, with increasing demands of sophisticated criteria – and improved statistical methods - this is not always met, e.g. criterion of accessibility (commuting time, cf. table 1.3).

2.4.2. Statistical analyses

Having identified a potential list of "objective criteria" the next step is to make statistical analyses. This has been a tradition in all government reports about equalization, cf. e.g. Finansieringsudvalget (1998).

The local expenditures are categorized in separate "expenditure-blocks" containing substitutable or overlapping services and the single expenditure-blocks are investigated separately.

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[10] See for example Finansieringsudvalget (1978). See also Council of Europe (1992).

For each expenditure-block a pool of possible expenditure needs criteria is identified according to the requirements mentioned in the box above. To avoid variance linked to the size of municipalities the dependent variable is normally divided by (or 'normalized') by a demographic measure. Similarly, the independent variables are calculated *per inhabitant* (or another variable characterizing size) to avoid size effects.[11]

Finally, regression analyses are carried out. Normally simple OLS-regression has been used supplemented with panel data-methods. At one occasion - using data on individuals - logistic regression method has been applied.[12]

2.4.3. Application

In Denmark the regression equations are never directly applied to measure needs as this would result in fluctuations in grants for each revision. To avoid fluctuations the regression analysis is only one step in a longer procedure.

The final stage is the selection of the 'best' criteria from the statistical analyses to find a suitable weight to the criterion.

The weights for the demographic variables, cf. above, are derived directly from the local government budgets, and the weights are according to the law automatically updated every year following the development in the budget data.

There is no automatic updating for the weights for socio-economic and structural variables. Both the relevance and the weights are from time to time discussed in the Finance Committee ("Finansieringsudvalget"), see below. For the technical preparation of the latest reforms of the equalization system the main elements in this process have been:[13]

1) Picking the "best" explanatory variables from the regressions analyses, also taking into consideration the parameter values.[14]

However it must be taken into account that the parameter variables might no be stable from year to year.

2) Exclusion of variables with negative parameter values or being difficult to "translate".

Such variables may not be doomed to be proper expressions for "need", or they may be too difficult to get politically accepted.[15]

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[11] Cf. Kabelmann et al (1998).

[12] See e.g. Finansieringsudvalget (1998) for use of panel data methods, and for logistic regression method Sundhedsministeriet (1992).

[13] Since those considerations are normally not always expressed in reports this is the judgement of the author. See however some references below.

[14] E.g. Finansieringsudvalget (2005).

[15] E.g. Finansieringsudvalget (1998). 'Number of children per household' showed negative but significant relationship with expenditures in kindergartens/child care. Also 'number of divorced

3) Considerations of incentives.

Giving a certain criterion (i.e. number of unemployed) a high weight might create problems about incentives for local employment policies.

4) Other relevant considerations.

These might include discussion of supply side factors, e.g. that certain needs may not be visible or get low parameter values via the regression analysis due to limited resources for certain municipalities.[16] Also a “problem of outliers” has drawn attention to the committee, i.e. that variables passed through step 1)-3) may none then less be poor explanatory criteria measured against the expenditure needs of certain municipalities. This discussion demands micro-based expert knowledge of the members of the Committee but is seldom expressed explicitly in the reports.

Finally, there is a political decision process in the Parliament.

3. The organization of work

3.1. Introducing remarks about evaluation

By organizing of work we mean the institutional or administrative set up that generates proposals for establishing (change in) expenditure needs. Afterwards it is up to the government to make use of those proposals and – if the government chooses to do so - for the Parliament to make decisions about them.

It does not seem obvious on beforehand what is the ’best’ way of organizing the set up of a proposal for how to establish expenditure needs for local governments. Of course there have to be a political decision process in the end, but what should be the preceding steps?

Speaking about whom should take part in this organization is related to the question of how is equalization handled in relation to the social welfare function. But who defines this function? There are many candidates or potential interested partners, but living in a political environment it would at the outset be natural to mention the minister and his/hers government, since the minister – when they are in office - interpret the social welfare function. But changes in equalization systems are always politically costly so the government seeks to take into account viewpoints of a broad political spectrum. Also, it is important for the government that the local government gives their support – or at least their acceptance – to the proposals, even though the single local governments naturally often will have conflicting interests when it comes to practice.

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men’ have shown significant positive relationship with certain socially related expenditures but is not used as a criterion (cf. the Norwegian system table B.1 in appendix.)

[16] See a few comments relevant to this issue in Finansieringsudvalget (2005, p. 114).

All in all, the government demands proposals about expenditure needs equalization that have a fair chance to be passed through the Parliament and gain support from the local governments – at least to some degree.

To fulfil those objectives the following 'standards of quality' of a good proposal about expenditure needs is suggested:

1. *reliability:* the proposal must be reliable. This implies use of all available and updated data and that information is handled with the relevant statistical methods. It also involves objectivity, i.e. cleared from narrow-minded considerations of being to the benefit of certain favoured local governments
2. *future-orientation:* the proposal must be forward looking/have focus on the long run. Since changes in equalization presumably will be controversial and involving political "costs" the proposed equalization system should be stable and robust, i.e. need not be changed in the short horizon. It must also include the very latest information about local government responsibilities as possible and possible population forecasts etc.
3. *pragmatism:* the proposal must be well-considered and pragmatic, i.e. taking into account that the system can be "explained" to the local politicians and the public in general. It also includes considering distributional consequences, i.e. that no local government – as far as possible - is "left behind". And, most importantly, proposals need to be formulated so that no authority is exposed to chocks. In Denmark the 'level of tolerance' seems to be negative changes in net-revenues from equalization of 0.2 pct. of the tax base annually.

Those elements of a good proposal might be in potential conflict. Most obvious getting too pragmatic may hurt the reliability and future-orientation. However, not taking into account pragmatic consideration the proposal will likely be considered as abstract and theoretical from the political level having ordered the proposal.

Another dimension of the process of putting up a proposal about expenditure needs is the different tasks involved in the process. Three tasks are identified, cf. also the way of reasoning discussed in sections 2.4.1 – 2.4.3:

a. *identifying potential criteria:* the specialist but also sensible task of choosing potential criteria that might be candidates
b. *choosing relevant criteria:* the statistical and 'technical' art of identifying criteria having a good and robust correlation with needs
c. *fixing weights of relevant criteria:* the practical task of proposing weights to criteria based also on distributional considerations.

All in all this produces a kind of 3x3 matrix, which can be used for evaluating organization. Reliability might be of general importance, but when identifying relevant criteria it is possibly more essential to be future-oriented than pragmatic. On the other hand, pragmatism may be rather decisive when it comes to fixing weights.

3.2. Describing the administrative set up

3.2.1. The Finance Committee

Looking back on Danish experiences of the work with expenditure needs equalization the organization has been strikingly stable. Since the 1970'ies a committee of civil servants from ministries and organizations of local governments has played a central role in preparing reforms of the equalization system and – especially – the expenditure needs part of it. This Finance Committee ("Finansieringsudvalget") has produced a large number of white papers, memorandums and reports. Those reports have in many – but certainly not in all - cases subsequently been followed by legislation. Some of the reports were not followed by proposals from the government but did none the less play a role in later discussion of reforms. A few changes/reforms have not been discussed in the Finance Committee (e.g. 1995-reform, cf. also footnote 17).

3.2.2. The Ministry of Interior

The legislation on equalization and expenditure needs is the responsibility of the minister of interior, and the MOI (since 2001 the Ministry of Interior and Health) provides the chairman and the secretariat of the committee.

As a rule work on a new report is initiated on the basis of a written mandate approved by the minister and the government, and after receiving comments from the local governments' organizations. After having finished work the finalized report is officially delivered to the minister for approval. He is, however, updated regularly of the work in progress.

3.2.3. The Ministry of Finance

Though the MOI is the minister responsible for the local government organization and equalization, no proposal can be advanced without the support of the MOF. The main interest of the MOF in the work of the Finance Committee is to secure that local government spending is within macroeconomic acceptable limits. This means that stable and robust equalization models are and interest of this ministry.

3.2.4. The sectoral line ministries

A number of sectoral ministries participate in the work of the committee, i.e. the Ministry of Social Affairs, the Ministry of Labour, the Ministry of Education, The Ministry of Transportation and the Ministry of Health (now being merged with the MOI). Those ministries possess the Central Government expert information on schools, kindergartens, hospitals etc. Besides – and not the least important factor – these ministries have the possibility to propose alternative financial arrangements than block grants combined with equalization, in particular different forms of conditional grants if they find that the expenditure needs are not mirrored in an appropriate way in the general financial system. The inclusion of these ministries in the Finance Committee is also seen as a way to convince them to remain loyal to the general model of finance.

3.2.5. The local governments' associations

In Denmark two associations organize local governments represent the municipalities and the regions respectively: KL (National Association of Local Authorities, NALA) and Danske Regioner (Danish Regions). All local authorities are member of one of those organizations.

From the point of view of the associations it is self-evident that questions of distributions among members are difficult and controversial. On the other hand, a fair and well-functioning equalization system is a way to avoid different kinds of conditional grants so disliked by local authorities because they are seen as political centralization. Finally the participation allows local authorities to get their special concerns raised and analysed by the government.

As to the benefits for the Central Government the associations are assumed to possess the most updated and detailed information on the financial situation of single governments.

The associations can also have their own models analysed, but usually they focus on having possible alternative models in the reports. This must be seen on the background of controversial distributional effects.

3.2.6. The role of external partners

If the role of the Finance Committee has been pronounced it is as well striking that only rather few reports from Danish universities, the Statistics Denmark, independent advisory boards etc. have dealt with or discussed expenditure needs – at least not in a more continuous way. Exceptions are e.g. Bunzel et al (1980), where three university professors vigorously criticized the statistical methods used in Finansieringsudvalget (1978). Another example is Dilling-Hansen et al (1991) who made a contribution concerning economic conditions in small, perhaps economically distressed, rural local governments. This was part of the foundation for the organization of economically disadvantaged (in Danish "Det Skæve Danmark") municipalities, but this organization has itself consciously abstained from analysing expenditure needs (cf. Det Skæve Danmark (2000)). Finally, Det Økonomiske Råd (The Danish Economic Council) (2002) made a study of the economy of local governments and also discussed equalization and the expenditure needs system. However, the council did not bring new statistical analyses and did not question the existing set up, it criticized the complexity of the system and noted the difficulties in the precise measurement of expenditure needs.

Besides the contribution from the academic world a range of single municipalities, formal or informal organizations of local governments etc. have published studies of the equalization system, often insightful but of course also normally seen from exactly those municipalities.[17]

Finally, there exist a few examples of specialist work being carried out on the order of the Finance Committee, e.g. professor Milhøj (1998) contributed to the Finance Committee on the subject of statistical methods to be used analysing expenditure needs.

3.3. Evaluation

The Danish model differs clearly from the Australian model building on external, "objective" determinants of expenditure needs. It also differs from other countries in that the

[17] See Finansieringsudvalget (2004, chp. 15) for a list of contributions. It is noteworthy that the minister in power in 2000 set up a special "Dialogforum" (Forum of Dialogue) on equalization, parallel with the Finance Committee. The Forum was however closed down already in 2001.

system of grants and equalization is very much centralized internally in the government with MIT (supported by MOF) plays a strong role.

How does this corporative model with strong coordinationinternally in government – both on technical matters and assessment of alternatives - works?

3.3.1. The corporate mode in Denmark

There is in Denmark a general acceptance of a corporate model. Decisions are normally made after hearing of the interested parties and negotiations. The Municipal association (KL) has been cleverly pushing this model since created in 1970 and has by this gained strong influence. The Finance Committee is one result of this policy. In general, however, there is close cooperation with the local governments‘ associations in the so-called “budget-cooperation system” (central/local consultation and budget-cooperation system). The system – involving frequent meetings between ministers ad the chairs of the associations and annual negotiations at a more or less fixed schedule - has been functioning since the 1970’ies and is today an important part of Danish economic policy system.[18]

Why this cooperative (or even corporative) model has developed in Denmark is not clear, but part of the explanation is that Denmark is a small and homogenous country with a certain degree of political consensus. Often the opposition in Parliament disagree with the agreements made in those forums, but know their usefulness if - and when - they get in office.

3.3.2. The Finance Committee and reliability

There exist no external evaluation of this aspect of the work of the Finance Committee, but the lack of academic or alternative contributions might indicate that the committee has gained some degree of reliability. The frequent publication of reports may have contributed to the transparency of the work in this respect. [19]

Also it is worth noting that in spite of Denmark being most often ruled by minority governments it has been possible to find a Parliamentary majority for reforms of equalization, building on the proposals from the Finance Committee when it comes to expenditure needs. The opposition has been critical of the latest equalization reform, focusing on the final distributive outcome for individual local governments. It is not clear if this also includes discontent with the needs criteria. From one of the biggest municipalities there has been concerns about some of the new criteria, cf. Holdt-Olesen (2006).

3.3.3. Future-orientation or stifling of the system

The fact that the expenditure needs system has changed but only with intervals of 5-10 years demonstrates some kind of stability. On the other hand – and just as important – the changes within some intervals indicate that the system is not stifled.

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[18] See e.g. Blom-Hansen (1998) and Lotz (2007).

[19] The report Finansieringsudvalget (1998) was published as a kind of reaction about the 1995-reform, which was not prepared by the committee (cf. above), and did also raise criticism of certain needs criteria implemented after this reform, see op.cit. p.26.

It must be stated also, however, that the tasks of Danish local governments both have become more sophisticated and the level of ambition concerning equality has risen (especially concerning the now solely block grant-financed regions), which might in the future be an important challenge to the ruling concept.

3.3.4. The aspect of pragmatism

The Danish model with committees based on civil servants seems to have given this aspect a high priority. Of course, this characteristic of the model, including bias of a certain understandable ‘conservatism’ from the organizations on the other hand pose a threat of overlooking the other aspects. If e.g. pragmatism is favoured at the expense of the element of future-orientation this could be dangerous to the organization in the longer run.

If pragmatism is the headline this could also jeopardize the reliability of the system if the public gets the impression that compromises, ‘horse trading’ and incrementalism stands in the way of sound but more profound changes. However, here participation of the local government associations undoubtedly has been to some help securing that ‘objective’ criteria are candidates of expenditure needs.

4. Final comments

The Danish system of equalization of expenditure needs is seen as a relevant and integrated part of the general financial system. Bigger local governments due to the structural reform of 2007 have levelled out some of the former differences, cf. the introduction. But instead with the recently implemented structural reform the municipalities have received certain more sophisticated tasks from other levels of government, putting a challenge to the expenditure needs system.

Over the years the way of thinking about expenditure needs has developed. The normative production function approach is ruled out in favour of the expenditure approach, aiming at measuring needs from observed data, correcting as good as we can for local income levels and preferences. However expenditure method contains a problem of supply side factors.

Statistical analyses are used to identify needs criteria. They are, however, only one step in a longer procedure involving identification of potential needs criteria according to certain requirements of objectivity and choosing the best criteria taking several factors into account. The procedure secures among other things a stable system and – hopefully – a system which can be “translated” to other than experts in equalization.

Also the organization of work has evolved. The technical work is centred around the Finance Committee, involving Ministry of Interior, Ministry of Finance, line ministries and local governments’ organizations, but only to a modest degree external, e.g. academic contributions. The corporative model of organizing the work of establishing proposals for new expenditure needs criteria via the Finance Committee is evaluated according to three parameters: reliability, future-orientation and pragmatism. The ultimate test is, of course, the successful implementation of proposals from the committee.

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Appendix A

Equalization formula of country-wide equalization scheme.

With

T_i	=	Grant to municipality i from country-wide equalization – including block grant
UN	=	Equalization level for country-wide equalization
P_i	=	Expenditure needs per capita – average for municipality i
t_i	=	Tax level (weighted from personal income tax and land tax) in municipality i
Y_i	=	Tax base per capita – average for municipality i
Y	=	Tax base per capita – average for all municipalities
N_i	=	Number of inhabitants for municipality i
N	=	Number of inhabitants for all municipalities
CIE	=	Net Current and Investment Expenditures – sum for all municipalities
G	=	Total block grant
G_{res}	=	Residual block grant, i.e. block grant, G, dimished by block grant used for equalization, cf. (1), and grants used for equalization scheme for municipalities in unfavourable economic situation

the equalization formula is:

$$T_i = UN(P_i - t * Y_i)N_i + G_{res}\frac{N_i}{N} \qquad \text{(A1)}$$

with the average tax level (tax pressure), t, defined as:

$$t \equiv \sum_{i=1}^{m} t_i \times (Y_i / Y) \approx \frac{CIE - G}{Y \times N} \qquad \text{(A2)}$$

Appendix B

Weights of expenditure needs of Denmark, Norway and The Netherlands.

Table B.1. Expenditure needs criteria in equalization systems in Denmark, Norway and The Netherlands, 2007.

Denmark Expenditure needs criteria	DK Weight Pct.	Norway Expenditure needs criteria	Norway Weight pct.	Netherlands Expenditure needs criteria	NL Weight pct.
Age groups:		Basic subsidy	2,5	Inhabitants	23
0-6	9,8				
7-16	21,2	Age groups		Dwellings	14
17-19	1,1	0-15	2,3		
20-24	2,0	6-15	30,8	Age group 0-19 years	10
25-34	5,4	16-66	12,0		
35-39	2,9	67-79	8,5	Local regional functions	9
40-64	11,7	80-89	13,3		
65-74	4,2	90 years or more	4,9	High density	9
75-84	5,6				
85 years or more	4,8	16-59 years divorced	3,8	Low income individuals	5
		16-59 years unemployed	1,1		
Commuting time	1,4			Social cash benefits	5
		Commuting time	1,5		
20-59 years unemployed > 5%*	5,4			Social support	5
		Travel distance I	1,0		
24-49 without vocational training*	5,2			Minorities	4
		Travel distance II	1,1		
Rented dwelling*	1,5			Regional regional functions	3
		Mortality	2,5		
Psychiatric patients*	1,5			Pupils secondary education	3
		Single 67 years or more	2,5		
Families in certain types of dwellingsr*	4,5			Selected physical features	17
		Immigrants	0,5		
Children of poorly educated parents*	4,5			Population characteristics	7
		16 years or more mentally handicapped	6,6		
Single more than 65 years old*	0,7			Tax capacity	-20
		Less than 16 years mentally handicapped	0,4		
Low income individuals*	3,0			Others	6
		Degree of urbanization	4,2		
Handicapped*	1,5				
		Rural districts	0,5		
Immigrants and descendants*	0,7				
Number of living years lost*	0,7				
Decline in populations numbers*	0,7				
I alt	100,0		100,0		100,0

Sources: Denmark: Indenrigs- og Sundhedsministeriet, Norway: Kommunal- og Regionaldepartementet, The Netherlands: Ministerie van Binnenlandse Zaken.