Institute of Local Public Finance
Working Paper 02-2005
September 2005

Equalisation and Local Taxation in Denmark, Norway and Sweden

Jan Werner and Anwar Shah

Equalisation and Local Taxation in Denmark, Norway and Sweden

by

Jan Werner and Anwar Shah[1]

November 2005

Abstract: The following paper deals with the local public finance system in some Scandinavian countries; namely Denmark, Norway and Sweden. Besides illustrating the local taxes, the main focus of this paper is the equalisation between the local authorities. Although all three countries are unitary countries, the grants and transfers are mostly arranged in a Robin-Hood-like scheme. Moreover, in the last few decades a number of reforms at the level of the social security systems took place in the three Nordic countries, but today the Scandinavians provide their citizens still with a high level of welfare.

JEL Classification: H7; H2; H1

Keyword: Fiscal Federalism, Grants, Fiscal Autonomy, Denmark, Norway, Sweden

1. Introduction

After the break-up of the "*United Kingdom of Denmark, Norway*[2] *and Sweden*"[3] in 1521, the Swedish kingdom was formed and became a constitutional monarchy in 1866, while Denmark received this status of a constitutional monarchy already in 1846. Norway held a referendum about the decision between a republic and monarchy and the voters opted for the constitutional monarchy in 1905. Today in all three countries the king has mainly representative functions and the important political issues are solved in the national parliament. But the common historical roots of the Scandinavian countries explain a lot of similarities in the economic and political institutions.

All three counties are unitary counties with three tiers of government. Besides the central government, the Nordic countries are divided in counties[4] and municipalities, which are extremely compact in an international comparison.[5] The following table 1 shows the some important information about the structure of the three countries:

Table 1: Indicators of the structure in Denmark, Norway and Sweden in 2003

	Denmark	**Norway**	**Sweden**
Number of inhabitants	5,383,507	4,525,000	8,940,788
Number of counties	12[6]	19[7]	21[8]
Name of the counties	amtskommuner	fylker	landsting
Number of municipalities / Capital	275 / Copenhagen	434 / Oslo	290 / Stockholm
Median inhabitants of a county	287,866	218,171	273,563
Median inhabitants of a municipality	10,461	4,439	15,209
GDP per capita	€ 26,150	€ 31,595	€ 22,460
GDP per capita in relation to the average amount of the European Community	123 %	148%	115%

Source: own calculations

2. Revenue Structure of the Scandinavian Municipalities and Counties

The most important sources of the local Scandinavian authorities are taxes – mainly local surcharges on the personal income tax (PIT) –, while vertical grants do not play such an important role as in other unitary and federal countries. The following table 2 points out the revenue structure of counties and municipalities in the three respective countries:

Table 2: Local revenue structure in Denmark, Norway and Sweden

	Denmark (2004)	Norway (2003)	Sweden (2002)
	€ 57.17 billion	€ 24.75 billion	€ 63.25 billion
Taxes	59 %	48.1 %	66 %
Fees and user charges	19 %	15.2 %	8 %
Grants	22 %	35.2 %	22 %
Other	0 %	1.5 %	4 %
Total local revenues per capita	€ 10,591	€ 5,470	€ 7,074

Source: own calculation

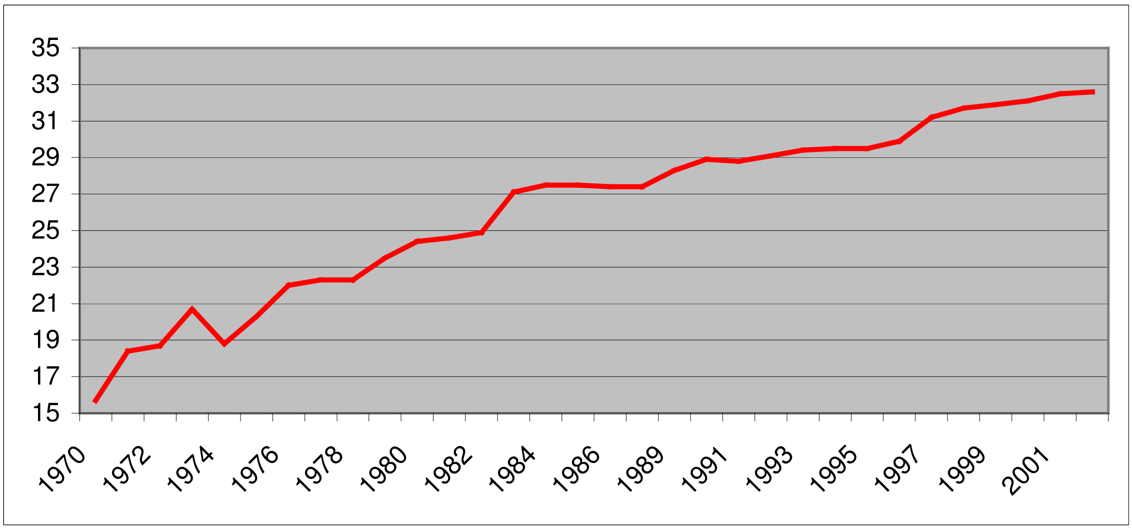
But the taxation power and the local autonomy differ more between the three countries than it seems at a first glance.

The Danish PIT (*Indkomst Skat*) is composed by a federal tariff system fixed by the central government and a flat tax rate by the counties and municipalities. In the fiscal year of 2001 the central government raised three tax tariffs

- The basic rate (*bundskat*) of 6.25%[9] up to an annual taxable income of € 23,938
- The middle rate (*mellemskat*) of 6 % for the amount between € 23,939 and € 37,260
- And the top rate *(topskat*) of 15 % for every amount above € 37,260

Additionally the counties and the municipalities can levy a local surcharge on the PIT. The local authorities are independent to fix their local flat rate and the only restriction in Denmark is that the total individual tax rate does not pass the limit of 59 %. The following figure 1 describes the development of the local surcharges on the PIT since 1970:

Figure 1: Development of the average, local (municipalities & counties) surcharge in % on the PIT in Denmark from 1970 until 2002



Source: own calculation based on various publications of the Danish Skatteministeriet

While the average local tax rate on the PIT increased from 15.7 % in 1970 to 32.6 % in 2002, the federal tax rates have declined enormously in Denmark. For example in 1994 the *bundskat* amounted to 14.5 % and in 2002 the same rate totalled only 5.5%.

Besides the surcharges to the PIT the municipalities can levy some property taxes, which are called *Grundskyld*, *Daekningsafgigt* and *Frigorelseafgift*. The value of a property is based on the market value (see Josten, 2000) and is classified into categories:

1. the *total value* of a property including all buildings, which are located on the property
2. the *ground value* of the property, which is calculated by the market value of the undeveloped real estate
3. and *structure value* of the property, which is calculated by the *total value* minus the *ground value*

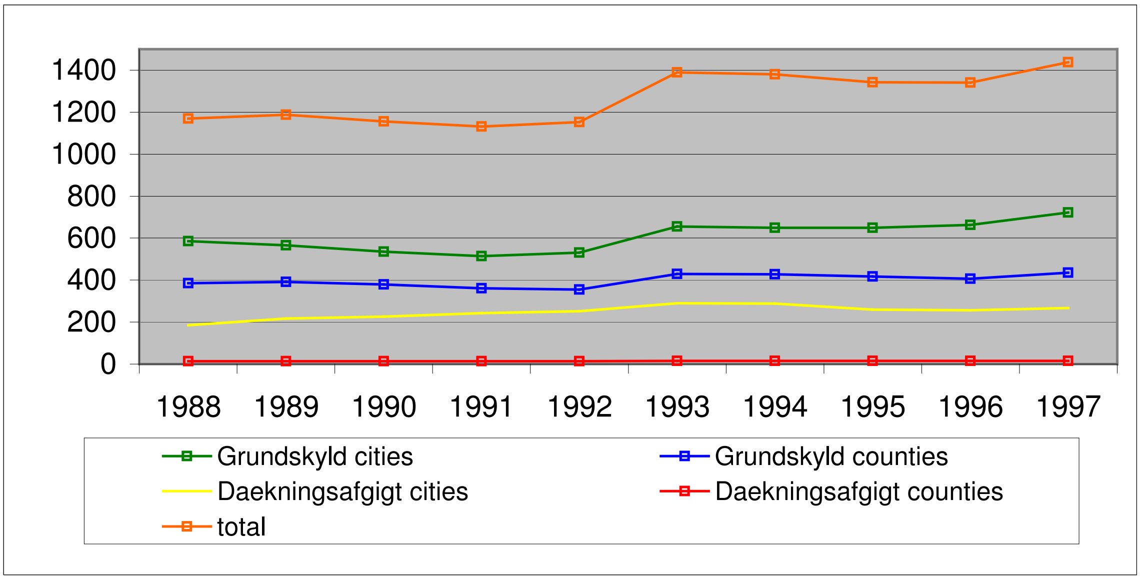
The *Grundskyld* uses the ground value as a tax base and the municipalities are allowed to fix a tax rate of between of 0.6 % and 2.4%. The counties can levy only a uniform tax rate of 1 %. The *Grundskyld* taxes only private property, while commercial and public properties are exempted.

The *Daekningsafgig* uses the structure value of commercial property as a tax base and only the municpalities can fix a uniform tax rate of 1%. Public property is taxed[10] also by the *Daekningsafgig* with a municipal, uniform rate of 0,4 % and a county tax rate of 0.5%.

The *Frigorelseafgift* tries to capitalize the increase of a property value within the framework of changes in the local development plan, which means that rural land can be used as building land or brwonfield. The *Frigorelseafgift* is based on the total value, but the revenues are very small and are divided envenly between the central government and the municipalities.

Moreover, the personal income also regards also the benefit of self-owned property. These tax revenues, which are based on the total value, are distributed equally between the central government, the counties and the municipalities. The following figure 2 shows how the tax revenues from real property developed from 1988 until 1997:

Figure 2: Revenues from property taxes in Denmark (in millions of €)



Source: own illustration based on data from Josten, 2000, page 111

A very small tax export exists at the Danish property tax, namely in holiday homes. In some of the costal village the portion of summer cottages makes up more than 25 per cent of the local housing stock. Blom-Hansen observed for 40 of these costal municipalities that the average tax rate of the *Grundskyld* among the 40 municipalities is almost 50 per cent[11] higher than the national average in 2000 (see Blom-Hansen, 2002, page 7).

Furthermore, tax sharing between the central government and the local authorities for the corporate income tax exits in Denmark, but these revenues amount to only 2 % of the complete local tax revenues.

The local taxation in Norway is based on the personal income tax, the wealth tax, the property tax and the natural resource tax. The following table 3 shows the distribution of the tax revenues between counties and municipalities in 2003:

Table 3: Local tax revenues in Norway in 2003

	Municipalities		Counties	
	€ billion	in %	€ billion	in %
PIT	8.64	88.3	2.03	98.8
Wealth tax	0.6	6.2	-	-
Property tax	0.4	4.0	-	-
Natural resource tax	0.15	1.5	0.02	1.2
total	9.78	100	2.05	100
Total local tax revenues per capita	€ 2,161	--	€ 453	--

Source: Borge, 2004, page 3

Similar to Denmark, the PIT is the most important tax for the local authorities in Norway. But in some rural townships with waterfalls the natural resource tax plays a huge role[12], because this kind of electricity tax is based on the quantity of produced electricity in the power stations.

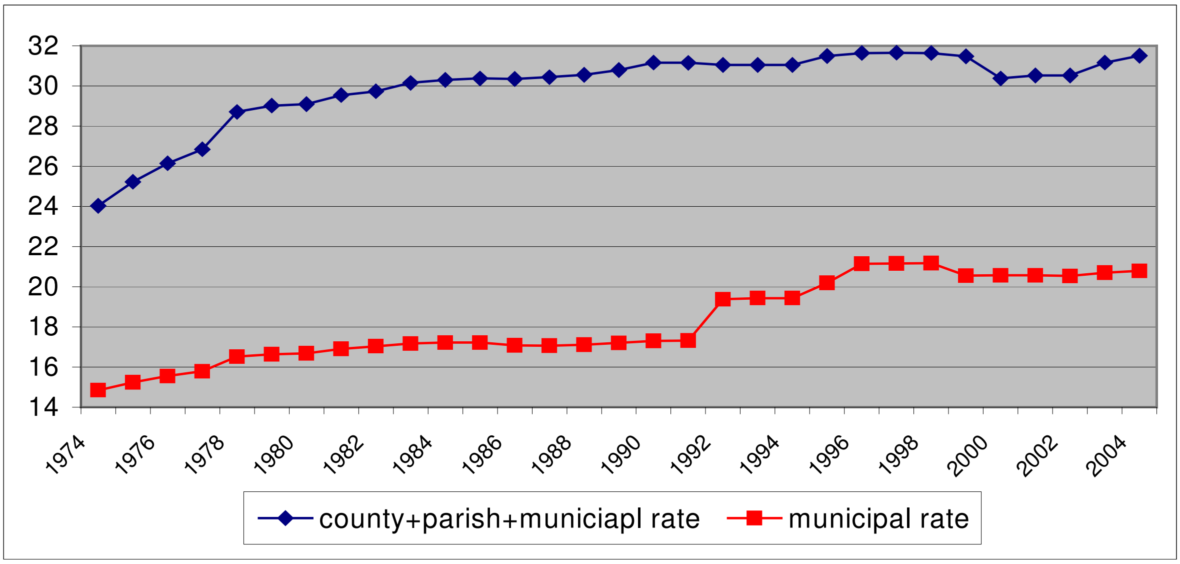
The municipalities and counties can fix their local surcharge on the PIT independently, but otherwise the central government limits the highest tax rate. Since 1977 all municipalities in Norway have chosen the highest possible tax rate of the PIT (see Borge and Ratto, 1997) and therefore the Norwegian system cannot characterised as a very decentralised country like Denmark. Rather, municipalities and counties are dependent on the tax setting by the central government in Oslo. In fact, the Norwegian local public system can be compared with the tax sharing of the PIT in Austria, Germany and Poland than with Denmark or Sweden.

The same situation like the PIT exists with the wealth tax; the municipalities are allowed to levy a flat tax rate, which is limited to 0.7 % by the central government, and the central government uses various rates to generate a progressive tax situation. The counties are excluded from the revenues of the wealth taxes.

The property tax is an optional tax for private and commercial property and is currently levied in more than 220 of 434 municipalities, while the counties are excluded again from these taxes. Therefore, fees and user charges are the only own resource of the local authorities in Norway, which are fixed completely independently at the local level and "since 1980 user charges have been the fastest growing revenue component of Norwegian local and county governments" (see Borge, 2000, page 703.)[13]

Both the Swedish counties and the Swedish municipalities can levy a flat tax rate on the personal income tax. Until the 1991 PIT reform, which generates a "dual income tax"[14], Sweden had extremely high tax rates for the PIT; at 73 % it was the highest rates of all OECD-countries. Since 1991 the central government has received all capital revenues, while the counties and municipalities can levy a surcharge[15] on the "labour part" of the PIT (*Kommunal Inkomstskatt*) and the central government fixes the different progressive tax rates. The following figure 3 describes the development of the local surcharges on the PIT in Sweden since 1974:

Figure 3: Development of the average, local (county, parish and municipality) surcharge in % on the PIT in Sweden from 1974 until 2004



Source: own illustration based data on Statistka centralbyran

The average, municipal[16] rate increased from 14.85 % in 1974 to 20.79 % in 2004. Besides this general increase in the average municipal rate during the last thirty years, the development from 1991 to 1992 have to born in mind. The increase from 17.32 % in 1991 to 19.38 % in 1992 can be explained by the fact that the responsibility for the care of elderly citizens has shifted from the counties towards the municipalities.

Moreover, Sweden changed their constitution in 2000 and since this time the parishes have not received their surcharge on the PIT any more, which illustrates the lowering of the total – county, parish and municipalities - local surcharges from 1999 to 2000 in figure 3. In 1974 the lowest parish surcharges of 0.62 % were levied in the county of Göteburg, while the highest parish surcharge was fixed at 1.05 % in the county of Uppsala. The gap between lowest and highest parish surcharge has grown over the time and in 1999 the citizen of Göteburg paid a parish rate of 0.85 % and in the county of Gotland the local parish rate amounted to 1.77%.

In the fiscal year of 2000 the central government abolished the upper limit of the municipal rate, but the differences in the tax rate are not very huge. Compared to Switzerland, where municipalities and cantons use the surcharges on the PIT to attract wealthy inhabitants to their respective authority, in Sweden exists no strong local tax competition between the counties and municipalities. In 2004 the inhabitants of the city of Dals-Ed had to pay the highest, total local surcharge at rate of 34.04 %, while the lowest total local surcharges on the PIT were levied in the city of Kävling with 28.90 %. The lowest municipal rate amounted to 17.58 % in the city of Solna, while the highest municipal rate of 23.79 %[17] was found in city of Dals-Ed. One reason for the small difference in the tax-settings is the local equalisation system in Sweden, which will be explained in detail in the next chapter.

3. Equalisation systems of the Scandinavian Municipalities and Counties

In Denmark the local government grants and equalisation system consists of four elements:

- Equalisation of the expenditure needs between the municipalities
- Equalisation of the tax base between the municipalities
- General grants from the central government
- Various special grants from the central government

The equalisation of the expenditure needs is based on the age of the municipal citizens as well as on some social factors like for example children with a single parent, the number of unemployed people or welfare recipients.

The following table 4 summarize the different emphasis of the "age factor" and the "social factor" in equalisation needs formula in the different local authorities.

Table 4: Emphasis of the "age factor"and the "social factor" in Denmark in the fiscal year of 2002

	age factor	social factor
(rural) municipalities	80 %	20 %
municipalities around Copenhagen	75 %	25%
counties	77.5 %	22.5%

Source: Danish Ministry of the Interior and Health, 2002, page 45

The age factor calculates a special amount for every county and municipality in Denmark, which represents the exact age of every citizen. The highest amounts per capita are assigned for pupils (age class 7-16) and elder people (age class 85 years and older). Moreover, the metropolitan municipalities around the capital of Copenhagen received per capita higher amounts. Table 5 abstracts the different age amounts in the fiscal year of 2002:

Table 5: Classification of the different age amounts in Denmark in 2002

	(rural) municipalities	municipalities around Copenhagen
0 to 6-year-olds	€ 5,704	€ 6,349
7 to 16-year-olds,	€ 7,740	€ 8,376
17 to 19-year-olds	€ 1,140	€ 1,125
20 to 24-year-olds	€ 1,374	€ 1,353

25-34-year-olds	€ 1,481	€ 1,460
35-39-year-olds	€ 1,477	€ 1,456
40-64-year-olds	€ 1,176	€ 1,164
65-74-year-olds	€ 2,416	€ 2,416
75-84-year-olds	€ 5,531	€ 5,448
85+-year-olds	€ 13,354	€ 12, 433

Source: own calculation

The social factor does not use actual expenditure, rather it uses unique, fictitious expenditure, and the different weights of the social criteria cost is shown in table 6:

Table 6: Emphasis of the different social criteria in the "social factor" in 2002

	(rural) municipalities	municipalities around Copenhagen	counties
# of children of single parents	32.5 %	32.5 %	48 %
# of inhabitants	25 %	--	-
# of rented dwellings	--	20 %	--
# of 20-59-year-olds without job	25 %	25 %	--
# of foreign people	10 %	10 %	--
# of 25-49-year-olds without vocational training	--	12.5 %	--
# of welfare recipient	7.5%	--	--
# of single inhabitants over 65 years	--	--	48.0%
Roads and public areas	--	--	4.0%

Source: Danish Ministry of the Interior and Health, 2002, page 45

The local equalisation of the tax base rests, not on tax revenues or on fees and charges, but on the tax base of the PIT and of all the property taxes. The tax base of a municipality or a county is calculated per inhabitant and is compared with the average national amount per inhabitant. If a local authority has a higher tax base than the average national tax base, it has to pay some grants to the local authorities with a lower tax base. This horizontal equalisation system is similar to the German equalisation system among the states (see Spahn, Werner, 2004), but the German system equalises tax revenues while the Danish system equalises tax bases.

As in the calculation of the expenditure needs, the municipalities around Copenhagen receive a "bonus", because their tax base is not compared to the national tax base but rather to the average tax base of all municipalities surrounding Copenhagen.[18]

Generally speaking, every "recipient municipality" gets 45 % of the difference between their own municipal tax base and the national average tax base from the "donor municipalities". Additionally, all municipalities with a tax base lower than 90% of the national average receive horizontal transfers, filling 40 % of the gap to the national average.

Besides the equalisation of expenditure needs and the equalisation of the tax base, some vertical grants from the central government to the counties and the municipalities also exist.

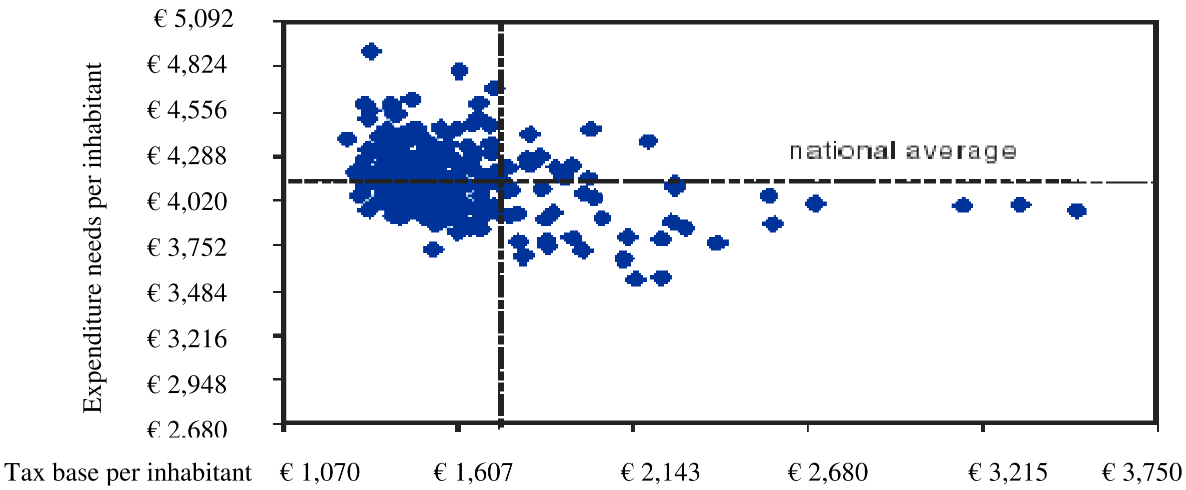
The central government funds economically weak local authorities with general transfers. Therefore the municipalities obtained € 35.64 million and the counties € 7.84 million from the central government in 2002.

Special grants were disbursed by the central government to local authorities on major islands to balance additional expenditure like ferry transportation costs or to subsidise young people who have to leave the island to get an education. The "island-grant" has amounted to € 5 million in 2002. Moreover, the central government pays a special transfer to the local authorities due to housing costs of asylum seekers.

Additionally, all Danish municipalities and counties get block grants from the central government and the annual amount is fixed by the central government independently for every fiscal year. These block grants amounted to € 3.3 billion for the municipalities and to € 1.1 billion for the counties in the fiscal year of 2002.

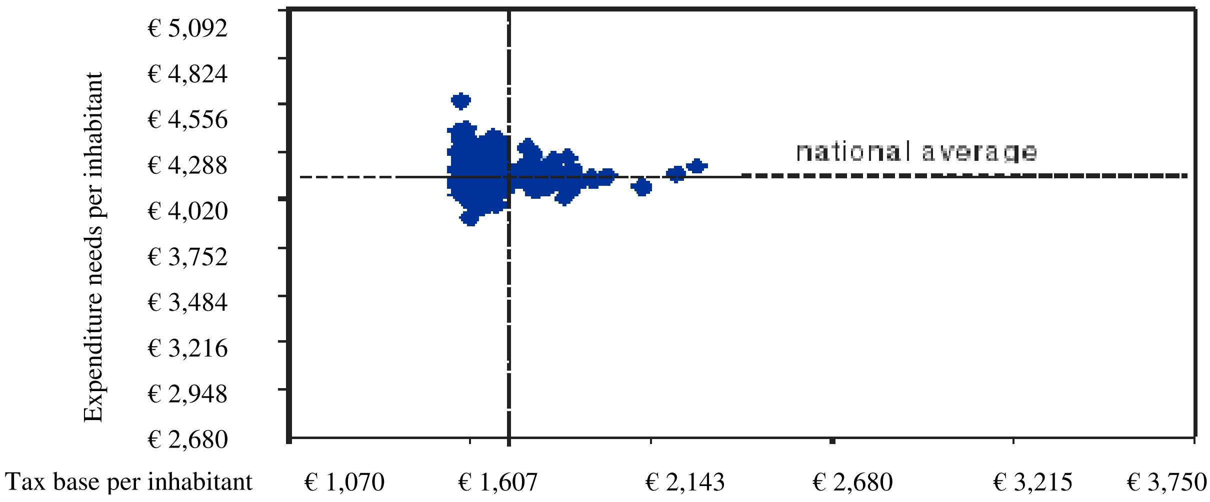
The following figures 4 illustrates the Danish municipalities before the equalisation and figure 5 shows the municipalities after equalisation measured by expenditure need and tax base in the fiscal year of 2002:

Figure 4: The Danish municipalities before the equalisation in 2002



Source: Danish Ministry of the Interior and Health, 2002, page 42

Figure 5: The Danish municipalities after the equalisation in 2002



Source: Danish Ministry of the Interior and Health, 2002, page 42

The Danish equalisation system balances the different tax bases and expenditure needs very carefully, which can be observed closely in the concentration of Danish municipalities on both national averages in figure 5.

Compared to Denmark, the Norwegian equalisation system is not so all-embracing. In Norway no general equalisation of the different expenditure needs exists and the tax equalisation is not based on the tax base but rather on the tax revenues.

The Norwegian tax equalisation is generated as follows. The tax revenues of every municipality and every county are calculated per inhabitant and are compared with the average national amount per inhabitant. For the municipalities, the tax revenues include for the municipalities the personal income tax, the wealth tax and the natural resource tax, while the counties have to include only the PIT and the natural resource tax. The property tax, which can be levied optionally by the municipalities, is not integrated in the tax equalisation system.

If a municipality (county) has tax revenues below 110 % (120 %) of the average national tax revenues, they received grants by the central government, which close 90 % of their fiscal gap towards the 110 % (120 %). If a local authority possesses more than 134 % of the national average tax revenues, they have to share 50 % of every tax revenues above the limit with the central government.

390 municipalities received the tax equalisation (block) grant from the central government, 28 municipalities were located in the “neutral zone” between 110 % and 134 % and only 16 municipalities had to share a part of their revenues with the central government in the fiscal year of 2003. Moreover, only one of 19 counties had to share

their high tax revenues with the central government, while the 18 counties received the block grants from the central government due to tax equalisation (see Borge 2004).

Since 1917, an equalisation grant system has existed in Sweden. Before 1993 the Swedish municipalities were classified into 12 different groups depending on various criteria like population or climate zone. The new equalisation system of 1993 – with some small supplements in 1996 and 2005 – abolished a bulk of vertical special grants and focused mainly on a horizontal equalisation system which is quite similar to the Danish conception. Therefore, the Swedish local equalisation system also consists of the following four elements:

- Equalisation of expenditure needs between the municipalities
- Equalisation of tax base between the municipalities
- General grants from the central government
- Various special grants from the central government

The equalisation of the expenditure needs between the municipalities does not use two major factors - "the age factor" and the "social factor" – like Denmark. In contrast to the different emphasis of the two Danish factors, the Swedish equalisation of the expenditure needs uses nine different factors, all of which possess all the same emphasis. The following table 7 explains the effect of these nine factors on six[19] Swedish municipalities in 2005:

Table 7: Effect of the equalisation of the expenditure need on six Swedish cities in € in 2005

	Average	Stockholm	Göteburg	Bjurholm	Burlöv	Dorotea	Umeå
Pre school	468	562	500	314	542	263	455
Comprehensive School	911	700	753	1,037	946	1,099	891
Upper secondary school	337	237	280	422	356	433	330
Welfare	308	500	506	106	357	207	300
Foreign people	9	22	26	0	35	0	0
Elderly people	851	901	814	1,489	682	1,690	540
Migration	5	0	0	89	0	141	0
Settlement structure	19	101	12	189	-10	208	30
Public transportation	52	85	102	51	49	27	51

total	2,970	3,108	2,993	3,706	2,957	4,067	2596
Receiving Grants (+) or donor grants (-)	0	+138	+23	736	-13	+1097	-374

Source: own calculation based on Statistka centralbyran

As in Denmark, the Sewdish equalisation of tax revenues is based on the tax base and uses the following equation for the calculation:

(1) $TT_i = 0.95 * POP_i * t_{nation} (TB_i – TB_{nation})$

TT_i : tax base transfer of municipality
$TB_{i\,:}$ tax base of municipality i of the the PIT per capita
POP_i : Number of inhabitants in municipality
$TB_{nation\,:}$ average nationwide tax base of the PIT per capita
$t_{nation\,:}$ average nationwide tax rate of the PIT

Consequently, a donor municipality has a positive TT_i while a receiving municipality has a negative TT_i . Nevertheless the whole tax base equalisation system is completely self-financing, because the grants to poorer municipalities are financed completly by the richer municipalities without any funds from the central government. Compared to Denmark where the ”equalisation factor” amounts to only 0.45 in general – without the extra amount for municipalities with a tax base lower than 90% – the Swedish tax base equalisation factor amounts to 0.95

Moreover, the incentive effects of the Swedish tax equalization scheme can be summarized[20] in the following three equations, where the net tax revenues (NTR_i) are determined by the subtraction of the gross tax revenues (GTR_i) with a tax base transfer of the municipality (TT_i)

(2) $NTR_i = GTR_i - TT_i = POP_i * t_i \; y_i - 0.95 * POP_i * t_{nation} (TB_i – TB_{nation})$

(3) $NTR_i = POP_i * TB_i \; (ti – 0.95 \; t_{nation}) + 0.95 * POP_i * t_{nation} * TB_{nation}$

(4)

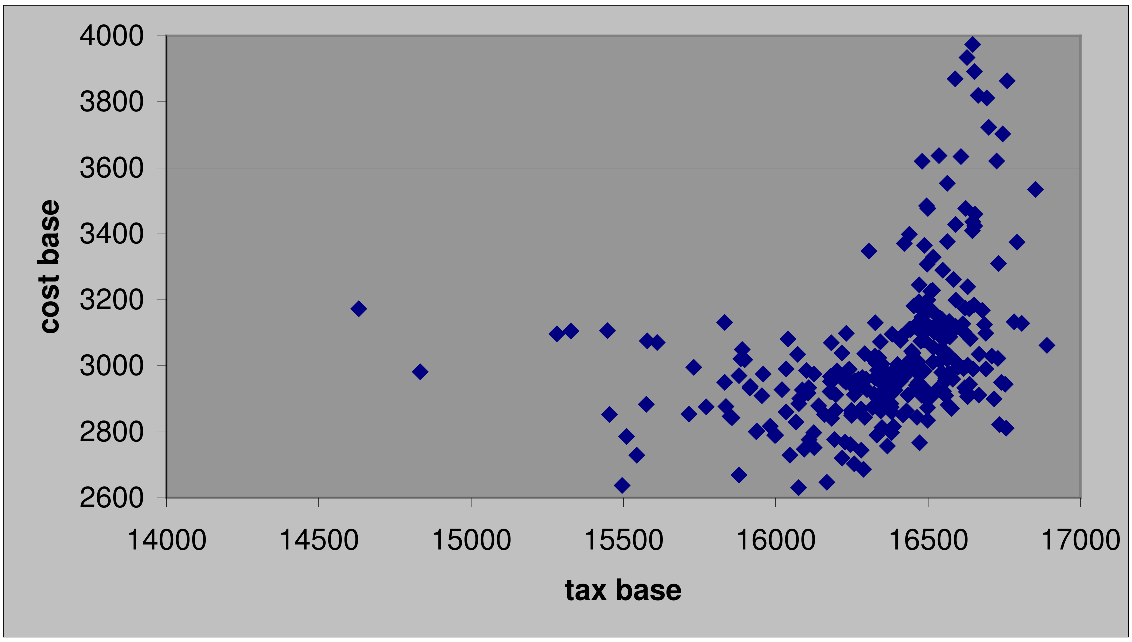
$$\frac{\partial(\mathrm{NTR}_i)}{\partial t_i} = \underbrace{POP_i * TB_i * \left(1+\frac{t_i \partial POP_i}{POP_i \partial t_i} + \frac{t_i \partial TB_i}{TB_i \partial t_i}\right)}_{\text{= effect of a change in the tax rate on the local revenues}} - \underbrace{0.95 \frac{t_{nation}}{t_i} POP_i * TBI_i * \left[\left(1-\frac{TB_{nation}}{TB_i}\right)\frac{t_i \partial POP_i}{POP_i \partial t_i} + \frac{t_i \partial TB_i}{TB_i \partial t_i}\right]}_{\text{= effect of a change in the tax rate on the payments in the equalisation system}}$$

As a matter of course, such a high “equalisation factor” of 0.95 reduces the incentives for the local authorities to start a tax competition. Therefore, it is not surprising that the

Swedish municipalities fix their local surcharges on the PIT very near closely to the average national surcharge and do not have such a wide gap between the local surcharges as in Switzerland.

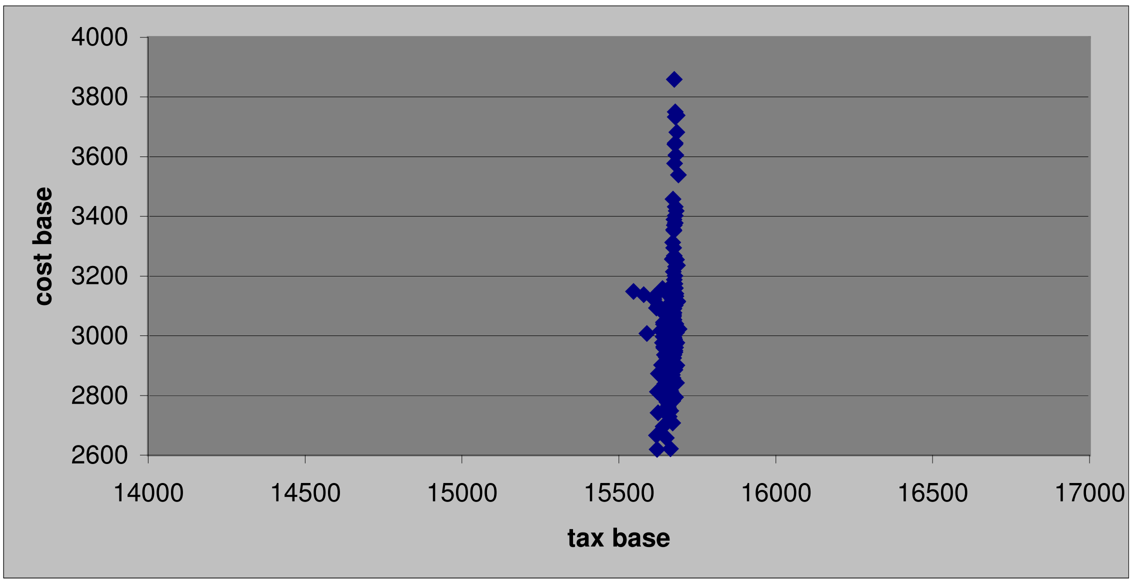
The following figures 6 illustrates the Swedish municipalities before the horizontal equalisation and figure 7 shows the municipalities after equalisation measured by expenditure need[21] and tax base in the fiscal year of 2005:

Figure 6 The Swedish municipalities before the equalisation in 2005 (calculated in €; preliminary estimate of the tax revenues)



Source: own calculation

Figure 7 The Swedish municipalities after the equalisation in 2005 (calculated in €; preliminary estimation for the tax revenues)



Source: own calculation

Figure 7 shows a gap at the expenditure level, while the tax bases is already equalised nearly to the national average. This wide variation of the expenditure needs compared to the tax base in figure 7 can be explained by two facts. First the vertical grants from the central government are not mentioned in this calculation and second the tax base equalisation will be mentioned also in the calculation of the cost base in the long run. Both effects will be presented in a separate figure 8 later. But before that, a short description of the different vertical grants in Sweden is more appropriate.

The central government distributes to every municipality a block grant, which amounts to € 218 million in total or € 24 per capita in 2005. The counties are also received a block grant from the central government of € 155 million or € 17 per inhabitant.

However, the vertical block grant is considered in the local equalisation formula. The same situation can be observed also for the most important special grant from the central government – namely, the grant for the school activities of municipalities – which is credited in the equalisation of the expenditure needs. Since the reforms of 1996 and 2005, special grants from the central government have not been so important any more and block grant and inter-local equalisation transfer are now the main pillars of the whole equalisation system. The following table 8 explains the complete effect of the local equalisation with the six "sample-municipalities" from table 7:

Table 8: Total effect of the local equalisation system on six Swedish municipalities in € in 2005 (preliminary estimation)

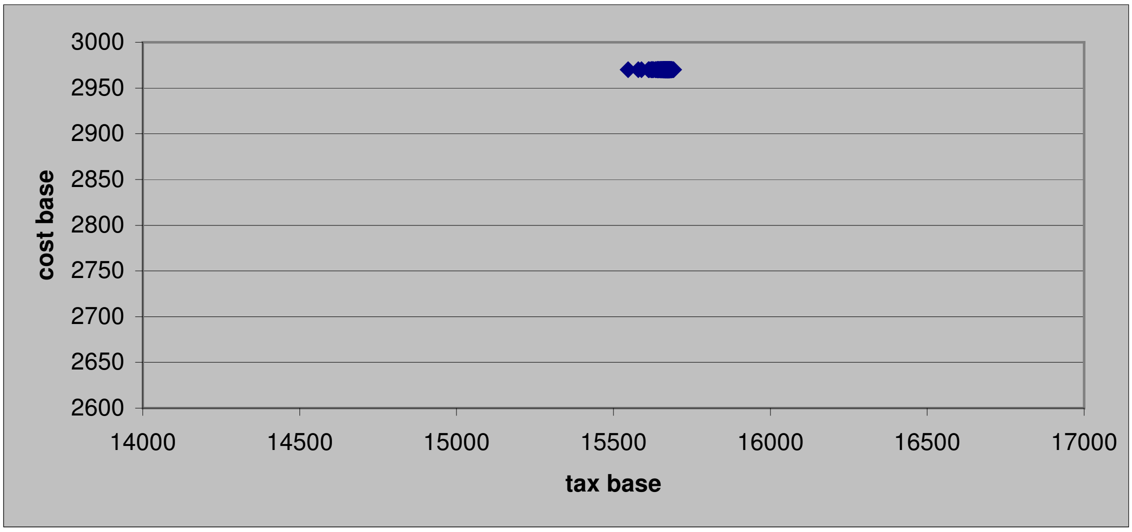
	Stockholm	Göteburg	Bjurholm	Burlöv	Dorotea	Umeå
Tax base equalisation	- € 203	+ € 382	+ € 1,091	+ € 752	+ € 998	+ 693 €
Cost base equalisation	+ € 138	+ € 23	+ € 736	- € 13	+ € 1,097	- € 374
∑ special vertical grants[22]	+ € 39	+ € 0	+ € 47	+ € 6	+ € 339	+ € 0
Vertical Block grant	- € 24	- € 24	- € 24	- € 24	- € 24	- € 24
Total per capita	- € 50	+ € 383	+ € 1,850	+ € 721	+ € 2,410	+ € 295
Receiving Grants (+) or donor grants (-)[23]	- € 38,279,200	+ € 183,230,242	+ € 4,789,950	+ € 1,199,574	+ € 7,603,550	+ € 32,237,305

Source: own calculation based on Statistka centralbyran

All in all, 13 municipalities are the "donor municipalities" in 2005, while 276 receive a transfer from the equalisation system. The same asymmetrical situation exists within the equalisation of the counties, because the county of Stockholm is the only net payer and the other 20 counties are receiving funds from the equalisation system.

The Swedish equalisation system has huge impact on the financial situation of the local authorithies and balances the municipalities closely to the national average tax base of € 15,630 and the national average of expenditure of € 2,970. The following figure shows the 289 Swedish municipalities[24] after the local equalisation and the distribution of the vertical grants in the fiscal year of 2005:

Figure 8 The Swedish municipalities after the local equalisation and the distribution of the vertical grants 2005 and the assessment of the tax base equalisation (calculated in €; preliminary estimate)



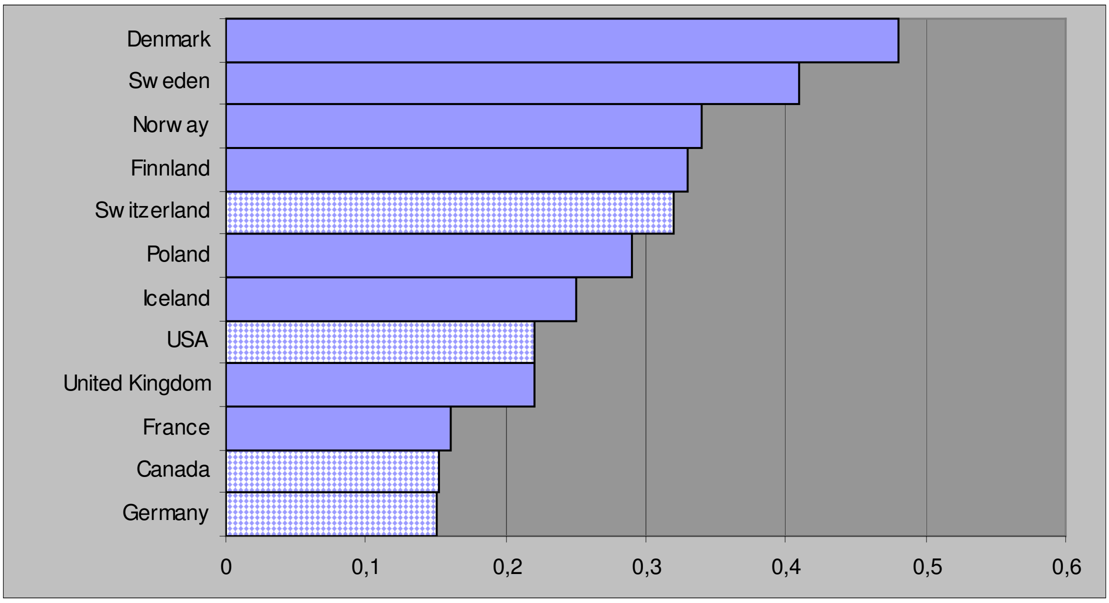
Source: own calculation

4.Conclusion

The Nordic local public finance system is unique worldwide, because in no unitary or federal country is the proportion of the local expenditure to the total expenditure higher. This high amount of local expenditure level is financed mainly by local surcharges on the PIT and other local taxes as well as by a very detailed local equalisation system. The following figure 9 shows that besides the three described countries of Denmark, Norway and Sweden also the Scandinavian country of Finland possesses a high level of local expenditure.

Moreover, it has to be borne in mind that in figure 9 the federal countries, which are highlighted by the pattern, are observed without their respective second tier of governments (states, provinces or cantons), while the unitary countries include all sub-national levels of government.

Figure 9: Portion of the local expenditure of the total public expenditure in the fiscal year of 2000

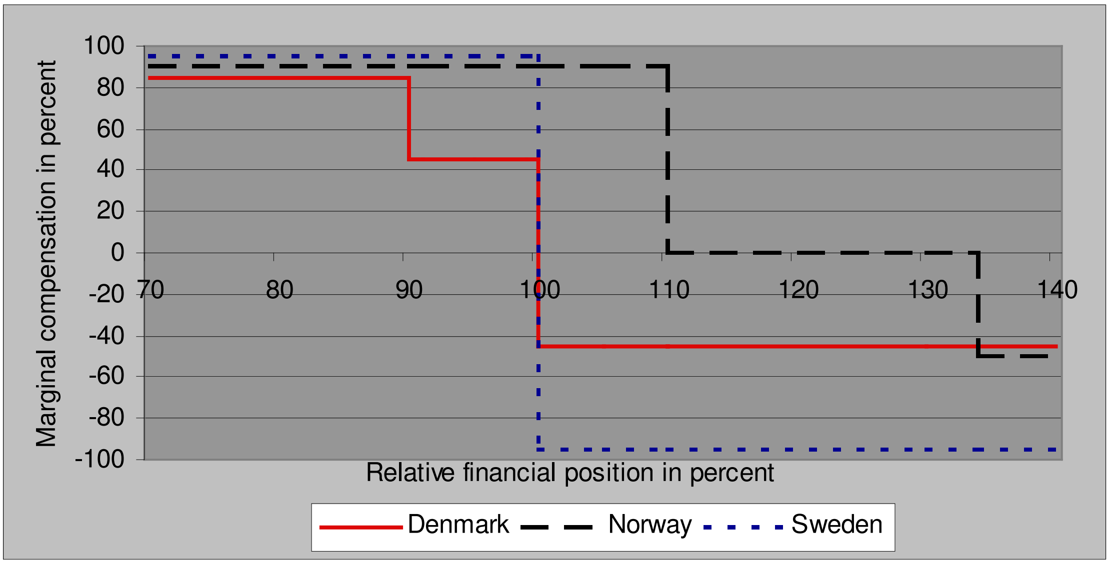


Source: own calculation

Nevertheless, the Danish local public finance system could be benchmarked as a very all-embracing and coherent system. With the PIT and the various property taxes, the local authorities possess two major tax sources. Besides, the almost independent determination of the local surcharge on the PIT, the actual annual[25] market-based valuation of the property taxation is another positive element of the Danish public finance system. Moreover, the Danish local equalisation system is not only based on tax revenues but also on expenditure needs, and the capital of Copenhagen and its surrounding metropolitan areas have been "readjusted"[26].

The Norwegian local public system is more centralized than the Danish and Swedish local public systems. Indeed, the Norwegian local authorities are also mainly financed by tax revenues, but since 1977 all municipalities in Norway have chosen the highest possible tax rate of the PIT, which is not a sign for financial independence. Another distinction of the Norwegian local public finance system in contrast to Denmark and Sweden is that in Norway no general equalisation of the different expenditure needs exists and the tax equalisation is not based on the tax base but rather on the tax revenues. The following figure 10 summarizes the different marginal rates of (tax-) compensation[27] in Denmark (red continuous line), Norway (black dashed line) and Sweden (blue dotted line) in the tax equalisation:

Figure 10: Marginal rates of the tax compensation of the municipalities in Denmark, Norway and Sweden



Source: own illustration

Sweden uses the highest marginal rates of compensation, whereas the Danish tax equalisation system compared to Norway and Sweden is more moderate. The degree of the marginal rates of compensation is always a fundamental political decision which could be a “hard row to hoe”, if we consider the long political reform discussion for example in Germany and Switzerland. The only solution to avoid this political “hot potatoes” is to delegate the complete equalisation measurement to an independent Council of Economic Experts like for example the Australian Commonwealth Grant Commission. But on the other hand, always leads such “political outsourcing” to a lack of democracy control and boosts the complexity of the system, because bureaucratic experts have to consider other principles than an elected representative.

5. References

Blom-Hansen, Jens (2002): Property Taxation: The Perfect Income Source for a Local Leviathan? Paper prepared for the 13th NOPSA Conference, Aarhus / Dänemrak, 15-17 August 2002.

Borge, Lars E. (2000): Charging for public services: the case of utilities in Norwegian local governments in *Regional Science and Urban Economics*, Volume 30, Issue 6, page 703–718.

Borge, Lars E. (2004): *Local tax Financing in Norway* in Norsk Økonomisk Nasjonalrappord, Oslo / Norway.

Borge, Lars E. and Rattø, Jørn (1997): Local government grants and income tax revenue: Redistributive politics in Norway 1900–1990 in *Public Choice*, Volume 92, Issue 1-2, page 181-197.

Borge, Lars E. and Rattø, Jørn (2005): The relationships between costs and user charges: The case of a Norwegian utility service in *FinanzArchiv,* Volume 61, Issue 1, page 1-22.

Josten, Rudolf (2000): *Die Bodenwertsteuer – eine praxisorientierte Untersuchung zur Reform der Grundsteuer*, Stuttgart / Germany, Kohlhammer

Ministry of the Interior and Health (2002): *Municipalities and Counties in Denmark - Tasks and Finance*, 5th edition, Copenhagen / Denmark.

Loughlin, John / Martin, Steve (2004): *Local income tax in Sweden: reform and continuity*, Paper prepared for the Balance of Funding Review, 5th Meeting of Local Government Finance of the Office of the Deputy Prime Minister, London / United Kingdom.

Sorensen, Peter B. (1994): From the Global Income Tax to the Dual Income Tax: Recent Tax Reforms in the Nordic Countries in *International Tax and Public Finance,* Volume 1, Issue 1, page 57-79.

Spahn, Paul Bernd and Jan Werner (2004): Germany at the Junction between Solidarity and Subsidiarity in Richard Bird and Robert Ebel (ed.), *Subsidiary and Solidarity: The Role of Intergovernmental Relations in Maintaining an Effective State*, Cheltenham, Edward Elgar, forthcoming.

Von Hagen, Jürgen and Matz Dahlberg (2004): Swedish Local Government: Is there a bailout problem? in Per Molander (ed.), Fiscal Federalism in Unitary States, Boston, Kluwer Academic Press, page 47-76.

---

[1] Jan Werner, World Bank and Johann Wolfgang Goethe-University, Chair of Public Finance, Zeppelinallee 29, Frankfurt on the Main, Germany, email: jan.werner@publicfinance.de Anwar Shah, World Bank, 1818 H-Street NW, Washington, DC 20433, U.S.A, email: ashah@worldbank.org. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author. They do not necessarily represent the view of the World Bank, its Executive Directors, or the countries they represent.

[2] From 1814 to 1904 Sweden and Norway formed again a united kingdom and the Norwegian inhabitants received great independence during this time. Before 1814 Norway was ruled by the Danish king.

[3] In this three nation kingdom the Danish royal dynasty dominated.

[4] Recently the Swedish government has started to create in tiny populated areas – like in Finland – regional counties (regionförbund). This form of administration is already in progress and is not planned for the complete country; see Loughin / Martin, 2004, page 4.

[5] In Denmark a huge municipal reform took place in 1970, while Sweden merged its municipalities twice; in 1952 they reduced the number of municipalities from 2498 to 1037 and in 1974 they lowered the number again to 274.

[6] In Denmark the capital of Copenhagen and the city of Frederisberg possess a “city status” and an “Amtskommuner status”.

[7] The Norwegian capital of Oslo is a combined municipality and county.

[8] The island of Gotland is a landsting as well as a municipality.

[9] In the fiscal year of 2002 the bundskat was reduced to 5.50%.

[10] It has to be mentioned that the tax base for public property is not the structure value but rather the ground value.
[11] 1.9 per cent tax rate compared to the national average of 1.3 per cent.
[12] 10 % of all tax paper of the natural resource tax amounted to close to 72 per cent of the total tax revenues on natural resources. In the fiscal year of 2003 only 1007 companies were taxed by this tax.
[13] Recently Borge and Rattø presented their empirical results about the sewerage cost development in Norwegian local governments for the time of 1993 to 1998. they found out that 30–40% of a cost increase is passed on to consumers in user charges and that user-charge financing has a significant negative effect on the unit cost, because an increase in user charge financing by 10 percentage points is predicted to reduce the unit cost by up to 10%. See Borge and Rattø, 2005.
[14] A dual income tax separates the capital revenues and the labour revenues. While the capital revenues are taxed by a flat tax rate, the revenues from wages and freelance work are taxed progressively. A classical dual income tax uses lower rates for the capital revenues than for the wages. A detailed description of the idea and the implementation of the dual income tax can be found in at Sorensen, 1994.
[15] Additionally the parish units can also fix a very small surcharge on the PIT. Compared to the rest of the world, this regulation can only be founded also in Germany.
[16] The rate of the municipality of Gotland is not included, because in Gotland the municipal rate and the county rate are assessed jointly.
[17] In 2004, the city of Gotland had in a local surcharge of 32.75%, but in Gotland the municipal rate and the county rate are assessed jointly.
[18] All municipalities around Copenhagen have to transfer 0.1 % of their tax base to a common pool. The funds of this pool are used to strengthen poor municipalities in the metropolitan area. The distribution of the funds is arranged by the central government.
[19] The six cities were chosen by the following criteria: Largest (Stockholm; 765,582 inhabitants) and second largest city (Göteborg; 481523 inhabitants) city, the smallest municipality (Bjurholm; 2587 inhabitants) and the MEDAIN-municipality (Burlöv; 15,290 inhabitants) and two municipalities which received the highest grants (Dorotea; 3155 inhabitants) and have to pay highest grant per capita (Umeå; 109,279 inhabitants).
[20] Van Hagen and Dahlberg have already presented a similar equation in 2004. See von Hagen / Dahlberg, 2004, page 59. We use the different notation, because in their term "$T_i = n_i * t_i$ "is in some cases y_i is missing, which complicates the understanding.
[21] The vertical grants from the central government are not included in the expenditure needs. This explains the wide variation of the expenditure needs compared to the tax base in figure 7.
[22] The grant for pre school is calculated in the cost base equalisation.
[23] Based on the population of November 2004.
[24] The municipality of Gotland is not included, because Gotland is a county (landsting) as well as a municipality.
[25]An annual valuation is not self-evident. In the United Kingdom the valuation office agency (VOA) uses values from 1994, in Australia some states have a valuation circle of seven years, Japan updates its valuations of land and building only every three years, in the eastern states Germany uses very old data from 1935 as well as 1964; and for the property tax (Podatek od nieruchomosci), agricultural tax (Podatek rolny) and foresty tax (Podatek lesny) Poland does not use the market value either, rather solely the size of the plot in square metres.
[26] This financial circumstance of a population readjustment is not unique. In Germany the inhabitant numbers of the city-states of Hamburg, Bremen and Berlin have also been "readjusted", i.e. their inhabitant numbers have been multiplied by the factor 1.35 in their equalisation formula. The Commonwealth Grant Commission favours also very densely populated areas like for example Sydney. The Swiss equalisation system (*Neuer Finanzausgleich*) among the cantons favours mountains cantons as well as metropolitan cantons.
[27] This does not include the expenditure equalisation, and additionally it has to be borne in mind that Norway equalises tax revenues whereas Sweden and Denmark balance tax bases. Moreover, the readjustment of the capital of Copenhagen and its surrounding municipalities is excluded.