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Inter-Nation Divergence within the EU and Options for a Progressive Revenue System

At the level of the European Union (EU) policies to support real convergence across member states are limited to public expenditure, whereas the revenue side of the EU budget is largely neglected. After discussing convergence as a policy goal, this article identifies the most important shortcomings of the EU's current fiscal system with respect to the reduction of spatial disparities. Alternatives to the current European revenue system are then examined with a view to their appropriateness for realizing inter-nation progressivity.

On January 1st, 1999, 11 out of 15 EU member states joined up to form the European Monetary Union (EMU). The European Union can now be regarded as a federation at an early stage. In the realm of public finance the concept of fiscal federalism is of special importance for the formulation of economic policy recommendations within federations. Two basic questions are at the center of this concept: to which level of a federation should public tasks – allocative and distributive functions as well as macroeconomic stabilization and structural policy – be assigned? And how are the necessary expenditures, and accordingly public revenues, distributed to the federation's levels?[1]

For a long time the scope of the theory of fiscal federalism was confined exclusively to national federations (examples are Germany or the United States). However, with the formation of federations by several independent nation states rendering part of their sovereignty to a central institution, the international dimension is increasingly gaining in importance. The most prominent case of a developing "international federation" certainly is the EU, but other nation states have also been building such federations during recent years, e.g. the Russian Federation. As a reaction to the advancing European integration a remarkable body of research work and publications on the theoretical and empirical relevance of insights gained from the perspective of fiscal federalism for the EU has been established in the last decade.

One basic dispute in traditional fiscal federalism literature is that between "centralists" and "decentralists" on the degree to which national sovereignty should be given up by ceding competencies to the central institution.[2] The other argument is about the normative concept underlying fiscal relations: should the distributive goal (to level out inter-nation differences in living conditions by some cooperative interaction between the different levels and member states) or the allocative goal (to allow system competition among the members of the federation and to rely on the subsidiarity principle) be pursued as the dominating one?[3]

To the present, the relations between the member states and the EU itself as the central institution have been determined to a large extent by the subsidiarity principle and allocative goals, in the sense that fulfilling these tasks at lower levels is generally preferable.[4] Although one well-known and generally undisputed result from the theory of fiscal federalism is that the redistributive function is to be assigned to the federation's central level, and although problems of divergence between EU regions and whole countries still exist and will be exacerbated by the envisaged enlargement, last year's negotiations on Agenda 2000 have not resulted in an adequate reform

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[1] See e.g. W. E. Oates: An Essay on Fiscal Federalism, in: Journal of Economic Literature, 1999, Vol. 37, pp. 1120-1149, here p. 1120.

[2] See R. Eichenberger: The Benefits of Federalism and the Risk of Overcentralization, in: Kyklos, 1994, Vol. 47, pp. 403-420.

[3] See B. Seidel, D. Vesper: Fiscal Federalism – An International Comparison, Deutsches Institut für Wirtschaftsforschung, Discussion Paper, 1999, No. 183.

[4] This rule is established in the preamble of the Maastricht Treaty; it is defended by ruling governments and the majority of economists, following the famous article by Tiebout; see C. Tiebout: A Pure Theory of Local Expenditures, in: Journal of Political Economy, Vol. 64, pp. 416-424.

of the EU's budget system. The comparatively small volume of the budget of the EU itself (1.27 percent of the member countries' total GDP per year from 2000 to 2006) is the quantitative reflection of the current preferences in European economic policy.

Rather new and by far not fully developed is the debate as to whether and how the structure of revenues of the central institution can contribute to the policy goals within an international federation. In the case of the EU the main aspect under discussion for several years now has been whether member states are "net contributors" to the European budget or whether their payments are disproportionately high compared to their returns; a dispute aroused by Germany, Austria and the Netherlands in particular.[5] Leaving this purely fiscal argument aside, only few authors have recently tried to examine systematically the economic and especially the distributive consequences of national contributions to the EU budget.[6]

Up to now, aspects of redistribution within the EU have been mostly addressed by theorists from the perspective of interpersonal redistribution. In political practice the reduction of interregional and international disparities has been more important. European social, structural and cohesion funds are mainly designed as financial support for the development of poorer EU regions or countries. Recently, however, the economic profession seems to have become more sensitive towards this issue, as a realistic perspective for membership of even "poorer" countries from Central and Eastern Europe (CEE countries) is shaping.

This article deals with the problem of inter-nation divergence within the EU-15, but also with regard to the CEE candidates for membership, and the ability of the European fiscal system to support convergence of (potential) EU members. The main emphasis will be placed on revenue provisions rather than on the expenditure side of the EU budget. The most important shortcomings of the EU's current revenue system from the perspective of inter-nation distribution are identified and several alternatives are discussed to find out whether they are more appropriate to overcome the prevailing income disparities.

Measuring Inter-Nation Divergence

A variety of indicators for convergence among a group of countries is presented in the literature; for the EU indicators for real and monetary convergence are usually distinguished. The following considerations concentrate on indicators concerning real convergence. According to a very general definition by Andreff convergence means "reducing disparities in levels of living within the EU."[7] For specification Prud'homme[8] suggests several economic indicators, e.g. output or consumption per capita and unemployment rates, and points out differences in per capita incomes as the most important indicator for spatial disparities. This variable also underlies the concept of ß-convergence used in endogenous growth theory, which defines convergence as a catching-up process in which poorer countries exhibit larger growth rates of per capita incomes than the richer ones.[9] In this view the process of convergence is a transitory process at the end of which there should be cohesion, as it is called in the European context.

For obtaining a valid picture of the actual average income situation of individuals within a country (or a region) the use of per capita incomes at purchasing power parities (PPP) is preferable to nominal per capita incomes at current market prices. To determine the relative income position of an average inhabitant of an individual country, its per capita income at PPP is compared to the average per capita income across all countries considered. For simplicity, countries with a relative income position below one hundred percent, i.e. with a per capita income below average, are subsequently addressed as "poor", whereas countries above average are called "rich". We can further use a simple, but easily tractable measure of dispersion $d_{t,i}$, relating for a group of countries i at time t the relative income position of the richest to that of the poorest country.

[5] See Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft und Technologie: Neuordnung des Finanzsystems der Europäischen Gemeinschaft, Bonn 1999.

[6] See for a rare exception T. Bayoumi, P. R. Masson: Fiscal Flows in the United States and Canada: Lessons for Monetary Union in Europe, in: European Economic Review, 1995, Vol. 39, pp. 253-274. The most important official document of the EU itself is the report on the operation of the system of own resources. See European Commission (ed.): Agenda 2000 – Financing the European Union. Commission Report on the Operation of the Own Resources System, Brussels 1998.

[7] W. Andreff: Nominal and Real Convergence – At what Speed?, in: J. M. v. Brabant (ed.): The European Union, the Transition Economies, and the Remaking of Europe, Boulder 1999, pp. 111-139, here p. 124.

[8] See R. Prud'homme: The Potential Role of the EC Budget in the Reduction of Spatial Disparities in a European Economic and Monetary Union, in: European Commission (ed.): The Economics of Community Public Finance, European Economy – Reports and Studies, No. 5, 1993, pp. 317-351.

[9] See e.g. X. X. Sala-i-Martin: Regional Cohesion: Evidence and Theories of Regional Growth and Convergence, in: European Economic Review, 1996, Vol. 40, pp. 1325-1352.

Per capita incomes still differ remarkably between the member states of the EU in nominal terms as well as in PPP. Table 1 contains the relative income positions of the member countries at current market prices and at PPP from 1980 to date.

Table 1

Relative per Capita Income Positions of EU Member Countries

	1980		1990		1999[a]	
	MP[1]	PPP[2]	MP[1]	PPP[2]	MP[1]	PPP[2]
Austria	103.1	104.9	109.2	105.8	117.3	112.4
Belgium	121.3	108.5	104.0	105.3	110.8	115.2
Denmark	126.1	102.9	127.8	100.6	138.8	112.9
Finland	105.6	94.9	139.5	99.9	106.1	99.4
France	123.8	112.9	111.4	109.7	108.8	104.3
Germany	131.9	117.8	127.3	117.8	116.1	108.8
Greece	52.1	66.6	44.0	59.3	50.2	69.8
Ireland	57.7	62.3	61.3	64.3	82.7	86.8
Italy	79.8	102.1	101.1	101.9	91.8	102.7
Luxembourg	157.8	146.7	184.0	185.2	186.2	174.9
Netherlands	120.9	105.1	100.7	101.3	108.4	106.2
Portugal	28.5	53.6	35.8	58.9	47.6	71.2
Spain	55.8	70.0	66.7	74.2	63.9	79.8
Sweden	149.9	110.9	137.8	104.5	115.0	93.8
United Kingdom	95.2	97.0	89.1	99.5	106.2	98.6

[a] Estimations.

[1] Per capita incomes at market prices.

[2] Per capita incomes at purchasing power parities.

Source: European Commission: Agenda 2000 – Financing the European Union. Commission Report on the Operation of the Own Resources System, Brussels 1998, pp. 127 f.

Table 2

Relative per Capita Income Positions of CEE Applicants

	MP[1]	PPP[2]
Bulgaria	7	24
Czech Republic	20	55
Estonia	11	23
Hungary	19	37
Latvia	8	18
Lithuania	5	24
Poland	14	31
Romania	7	23
Slovak Republic	14	41
Slovenia	42	59

[1] Per capita incomes in market prices.

[2] Per capita incomes in purchasing power parities.

Source: European Commission: Agenda 2000 - For a Stronger and Wider Union, Strasbourg 1997, p. 153.

The comparison of the members' relative income positions at PPP shows that convergence indeed has been taking place during the past two decades: all countries which were poor according to our definition in 1980 have been moving towards the EU average. None of them has crossed the borderline to the rich ones, however. Most interestingly, the majority of the rich countries could defend, or even improve on, their relative positions; only Sweden moved from the club of the rich to that of the poor members.

The development of the dispersion measure $d_{t,i}$ also indicates increasing cohesion. For 1980, we can calculate a $d_{1980,EU\text{-}15}$ of 2.74 (with Luxembourg as the richest and Portugal as the poorest member state); whereas in 1999 $d_{1999,EU\text{-}15}$ drops to 2.51 (with Greece as the poorest country).[10] These results and developments have to be assessed cautiously, however. A look at the regions into which the EU is divided reveals growing income differentials across regions.[11] Practically in all countries there are regions getting richer and regions getting poorer in terms of relative per capita incomes. Growing income convergence across countries goes along with increasing interregional income disparities. For simplicity's sake the following considerations refer to the nation state as the relevant unity, although we are well aware that the distinction between rich and poor countries instead of between rich and poor regions is a strong simplification.

An analysis of the CEE applicants and their relative income positions produces even more striking results. Their per capita incomes are lagging behind even those of the poorer members of the EU-15 (see Table 2). In 1995, relative per capita income at PPP was highest in Slowenia, with 59 percent of the average of the EU-15, compared to 18 percent at Latvia at the low end.[12] The relative per capita income at PPP of the CEE countries amounts to about 30 percent of the EU-15.[13] A comparison with the poorest countries of the EU-15 (Greece and Portugal with 66 and 67

[10] Even if Luxembourg is perceived as an exception and replaced by Germany or Belgium as the next country, this result holds.

[11] See I. Begg: Interregional Transfers in a Widened Europe, in: H. Siebert (ed.): Quo Vadis Europe?, Tübingen 1997, pp. 189-203.

[12] These data are not quite comparable with the data for the EU-15 in Table 1, as the average does not contain the candidates. As their inclusion would decrease the average, the applicants' relative income positions are systematically underestimated. The general trend is correct, however.

[13] See H. Brücker, P. Trübswetter, Ch. Weise: EU-Ost-erweiterung: Keine massive Zuwanderung zu erwarten, in: DIW-Wochenbericht, 2000, No. 21, p. 315-326, here p. 317.

percent, respectively, of the average in 1995[14]) highlights the extent of the disparities an enlarged union will have to deal with. Income dispersion including CEE countries in 1995 amounts to a $d_{1995,EU-15+CEE}$ of 9.39, with Luxembourg again at the high end and Latvia at the low end.

Inter-Nation Convergence as a Policy Goal

An obviously widely held opinion is that a higher degree of redistribution in the EU's fiscal relations must be inefficient on allocative grounds because it does not obey the principle of fiscal equivalence.[15] This paper challenges this assertion. There is a bundle of reasons why inter-nation redistribution is not only something one may wish in order to realize more "justice". Catching up toward the richer countries is a basic pre-condition for interpersonal redistribution in the poorer member states, otherwise their financial capacities for distributional measures remain rather limited. If this convergence process is supported by redistribution from richer to poorer countries the paying and the receiving country naturally cannot be identical – the equivalence principle must be violated.

But there is more to long-run inter-nation convergence as a policy goal. Already at the end of the 1970s the so-called MacDougall Report put forward as an important justification the prevention of interregional or international migration.[16] The mobility of labor, which at present is still relatively low within the EU, might be increased by large and persisting international differences in per capita incomes. The higher income differentials, the more incentives there are for workers to migrate from poor to rich countries. The basic insights from traditional migration theory formulated for example by Todaro[17] for developing countries should apply also to a club of divergent industrialized countries with decreasing barriers to labor migration. Workers compare the costs of migration (e.g. giving up social relations and a safe job in their home country) with expected utility (higher income weighed with higher probability of finding a job in the guest country) and leave their country in the case of a positive net result. The two most important determinants for migration decisions therefore are the employment situation in the home country compared to the destination country and income differentials.[18]

The increase in labor supply in the rich EU countries resulting from immigration presumably will drive down real wages to a negligible extent only. Particularly in the rich destination countries labor markets are highly segmented so that the majority of migrants does not compete directly with the domestic labor force. An exception might be the low-skills sector, where the inflow of foreign migrants could result in rising overall unemployment. On the other hand the probability that the migration group consists of workers who are younger and better qualified than the average work force in their country of origin is quite high. Thus their outflow can be regarded as a "brain drain" from the perspective of the poor countries, exacerbating existing divergences: if their income in the country of origin was below their marginal product then the country of origin's average income decreases through migration.[19] Thus migration from poor to rich countries will mainly have negative impacts on the poor peripheral countries.

The core implications of traditional migration theory outlined above were contested recently by Razin and Yuen[20] who, departing from an endogenous growth framework, presume that labor mobility will decrease rather than increase international differences in per capita incomes. According to the theory of endogenous growth the transfer of technical and managerial skills from rich to poor countries can diminish dispersions in per capita incomes. Human capital formation, the main factor of economic growth and therefore of increasing per capita incomes, is improved and accelerated by knowledge transfer to the less developed countries. These results, however, crucially depend on the form labor mobility takes. They are only valid for non-permanent stays of workers, i.e. comparatively short periods of guest working or foreign education, so that workers transfer their newly acquired knowledge when they return to their home country. But the largest share of the mobile labor force migrates for good or stays abroad as

[14] See European Commission: Agenda 2000 – For a Stronger and Wider Union, Strasbourg 1997, p. 153.

[15] See e.g. P. B. Spahn: Functions and Financing of the Community Budget Under EMU: Fiscal Federal Relations in the Community and the Financing of the Community Budget, Frankfurter Volkswirtschaftliche Diskussionsbeiträge, 1991, No. 18.

[16] See MacDougall et al.: Report of the Study Group on the Role of Public Finance in European Integration, Vol. I, Brussels 1977.

[17] See M. P. Todaro: A Model of Labor Migration and Urban Unemployment in Less Developed Countries, in: American Economic Review, 1969, Vol. 59, pp. 138-148.

[18] See also H. Brücker, P. Trübswetter, Ch. Weise, op. cit., here p. 320.

[19] See Th. Straubhaar: On the Economics of International Labor Migration, Bern and Stuttgart 1988.

[20] See A. Razin, C. Yuen: Income Convergence Within an Economic Union: The Role of Factor Mobility and Coordination, in: Journal of Public Economics, 1997, Vol. 66, pp. 225-245.

guest workers until retirement so that these workers cannot contribute substantially to technological progress in the origin country.

Also arguing from an endogenous growth perspective Krugman[21] draws a conclusion different from the results by Razin and Yuen. Assuming high mobility of labor and capital within the EU's common market Krugman creates a scenario in which existing differentials between the rich states at the center and the poor states at the periphery are intensified. Due to agglomeration effects mobile qualified labor and capital will concentrate in the highly developed center where technological progress will rapidly spread and lead to increasing growth and incomes. The poor peripheral countries are left behind. This line of argument is more convincing than McKinnon's expectation that due to lower wage and other costs resources will flow to the poorer regions and induce development: according to McKinnon fiscal equalization counteracts economic growth in poor countries because it levels out the factor price differentials.[22]

It can be reasonably assumed that labor and capital mobility caused by income differentials or divergence in general will have negative feedback effects on the countries of origin in particular and counteract international convergence. Cumulative imbalances which perpetuate and deepen regional disparities must be expected. Besides, Wildasin emphasizes that labor mobility "may limit the amount of redistribution undertaken at the national level."[23] If workers or whole households migrate to jurisdictions offering a larger extent of redistribution or higher per capita incomes migration spill-overs are caused.[24] This is another argument for introducing a redistributive mechanism into the European fiscal system as a whole instead of leaving the whole matter of distribution to the individual nation states.

A Concept of Inter-Nation Progressivity

First inter-nation equity and inter-nation progressivity must be distinguished. Equitable fiscal systems take account of national ability to pay[25] so that member countries' contributions to the central budget are proportionate to their share in the federation's overall GDP. Progressive fiscal systems directly improve the financial position of those countries whose per capita incomes are below average by redistributive provisions on the expenditure and on the revenue side of the public budget, so that vertical equity is realized. If we accept per capita incomes at PPP as a main indicator for national ability to pay, a progressive revenue system implies that the contributions by a poor country form a smaller share of its GDP than those of a rich country. The better a country's relative income position, the higher are its payments as a percentage of GDP. At the same time this implies that the stipulation of the annual contributions to the EU budget would be less determined by the principle of fiscal equivalence as it is now. Progressivity on the expenditure side means that (per capita) expenditures are granted to poorer countries to an over-proportionate extent.

Our suggestions for a progressive European fiscal system focus on the revenue side for two reasons. First of all previous research and practical policy are both characterized by widespread neglect of this topic. Efforts to reduce interregional disparities have been delegated to EU expenditures, which is the official guideline of the EU.[26] This neglect holds the danger that redistribution policies on the expenditure side are counteracted by inappropriate revenue structures.[27] Furthermore, serious doubts have been expressed as to whether transfers in general can reduce spatial disparities sustainably and to a satisfactory degree; these doubts seem all the more justified when the transfers are as small as the existing ones.[28]

Problems of the Current EU Budget

A large portion of expenditures and revenues within the EU budget cannot fulfil the condition of inter-nation progressivity; the Agenda 2000 agreements from 1999 have not changed this situation substantially. Table 3 shows the development of the

[21] See P. R. Krugman: Geography and Trade, Leuven 1991.

[22] See R. I. McKinnon: Market-Preserving Fiscal Federalism in the American Monetary Union, in: M. Blejer, T. Ter-Minassian (eds.): Macroeconomic Dimensions of Public Finance, London 1997, pp. 73-93.

[23] D. Wildasin: Budgetary Pressures in the EC: A Fiscal Federalism Perspective, in: American Economic Review – Papers and Proceedings, 1990, Vol. 80, pp. 69-74, here p. 73.

[24] See H.-W. Sinn: Tax Harmonization and Tax Competition in Europe, in: European Economic Review, 1990, Vol. 34, pp. 489-504.

[25] See K.-D. Henke: Die Finanzierung der EU, in: Wirtschaftsdienst, 1997, No. 1, pp. 45-49, here p. 48.

[26] See European Commission: Agenda 2000 – Financing the European Union, op. cit., p. 48. Nowotny characterizes the EU's cohesion policies as "indirect fiscal equalization"; see E. Nowotny: Zur regionalen Dimension der Finanzverfassung der EU, in: A. Oberhauser (ed.): Fiskalföderalismus in Europa, Berlin 1997, pp. 97-145, here p. 118.

[27] See I. Begg, op. cit., p. 199.

[28] See R. Prud'homme, op. cit., p. 343.

Table 3

Development of EU Expenditures, 1997 - 2006

(percent of total EU budget

	1997	2000	2001	2002	2003	2004	2005	2006	1997-2006[a]
Agricultural Funds	50.6	44.5	45.8	43.7	42.8	41.4	39.8	38.8	-11.8
Structural Funds[1]	32.5	34.8	33.7	30.7	29.6	28.6	28.1	27.2	-5.3
Other Expenditures[2]	16.9	17.3	17.2	16.0	15.7	15.7	15.6	15.6	-1.3
Pre-accession Aid[3]	X	3.4	3.3	3.1	3.1	3.0	3.0	2.9	-0.5
Enlargement[4]	X	X	X	6.4	8.8	11.2	13.5	15.6	+9.2
Total commitments (in billion Euro)	80.2	90.0	93.5	100.4	102.2	103.3	105.3	107.4	+27.2

[a] Changes in percentage points; for pre-accession aid 2000-2006; for enlargement 2002-2006.

[1] Structural and Cohesion Funds.

[2] Mainly for internal and external policies, administrative expenditures and reserves.

[3] Agriculture, pre-accession structural instruments and PHARE (for applicants).

[4] Agriculture, structural operations, internal policies, administration.

Sources: European Commission: Agenda 2000 – Financing the European Union, op. cit., p. 120; Official Journal of the European Communities, June 1999, p. C 172/14; own calculations.

expenditures on the European level between 1997 and 2006 as percentages of the total budget of the EU according to the "financial framework (EU-21)" negotiated within Agenda 2000. The projection is based on a scenario which assumes an EU with 21 member states (EU-21) from 2002 on.

As the EU-15 agreed on keeping total expenditures at a constant 1.27 percent of total EU GDP even after the integration of the next six applicants, the Agenda 2000 scenario envisages the gradual decrease of agricultural and structural expenditures. The European Garanty Fund for Agriculture will be reduced to below 39 percent of total expenditures in 2006 (as compared to over one half in 1997). What are the effects of agricultural expenditures on inter-nation convergence? Bayoumi and Masson state that regarding the traditional agricultural expenditures a substantial part of the European budget is "not designed to redistribute toward poorer areas, but rather to support a particular sector; consequently, some of the richer countries (France, Denmark) are among the larger beneficiaries."[29] It is true that the poor countries' agricultural sectors are mostly larger than the EU average. Estimations by the European Commission show, however, that 80 percent of the payments from common agricultural policy are received by only 20 percent of the farmers in the EU-15 countries.[30] As this group consists mainly of large farmers who are concentrated within the rich EU countries, the richer countries benefit over-proportionately. From this point of view, it is unlikely that a reduction of agricultural transfers to the core members of the EU will lead to a more unequal inter-nation income distribution. Agricultural expenditures granted to the future CEE members within enlargement transfers have a redistributive potential, but as they amount to about 3 percent of total expenditures in 2006 only (€ 3.4 billion), their effects must be rather modest.

More problematic is the reduction of the structural transfers, which actually are at the core of the EU's cohesion strategy, by 5.3 percentage points between 1997 and 2006. These structural expenditures indeed have decreased spatial disparities to a certain extent. Although they have been critized massively for lacking effectiveness and transparency, so that their potential to eliminate inter-nation divergence has not been fully used, their reduction will slow down the catching-up process of the poor EU-15 members.

From 2002 on additional enlargement expenditures for the CEE applicants are projected, reaching a share of over 15 percent of total expenditures in 2006. It must be expected, however, that in view of the massive structural problems of the CEE countries, with their comparatively large non-competitive industrial (e.g. coal, textiles) as well as agricultural sectors (particularly Poland), the planned amounts are not sufficient.[31] It should be seriously considered

[29] T. Bayoumi, P. R. Masson, op. cit., p. 267.

[30] See P. Nicolaides: The Economics of Enlarging the European Union: Policy Reform versus Transfers, in: INTERECONOMICS, 1999, No. 1, pp. 3-9, here p. 8.

[31] See P. J. J. Welfens: Probleme und Chancen einer EU-Osterweiterung, in: Zeitschrift für Wirtschaftspolitik, 1999, No. 2, pp. 182-191, here p. 189.

Table 4

The EU's Own Resources, 1988 - 1999

(percent of total own resources)

	1988	1990	1995	1997	1998	1999	1988-1999[a]
Traditional own resources[1,2,3]	29.1	29.4	21.3	18.8	16.7	16.1	-13.0
VAT-based own resources[1,2]	60.0	69.9	57.8	45.5	39.7	35.4	-24.6
GNP-based own resources[1,2]	10.9	0.7	20.9	35.7	43.6	48.4	+ 37.5

[a] Changes in percentage points.
[1] Planned figures.
[2] The data for 1998 and 1999 are projections.
[3] Traditional own resources are mainly tariffs and agricultural levies.
Source: European Commission: Agenda 2000 - Financing the European Union, op. cit., 1998, p. 11; own calculations.

increasing the budgetary ceiling of currently 1.27 percent of the EU's GNP, at least for the time needed to lower the income differentials to a certain target, which has to be fixed politically. The development of this ceiling could be coupled to the convergence achieved, measured by relative income positions, so that a reduction in inter-nation divergence would lower the budgetary ceiling.

Within Agenda 2000 it was not only agreed to keep spending at the EU level constant, but also to keep up the structure of the EU's revenue system, save some minor changes, and to postpone a decision on principal reforms.[32] Among the revenues the GNP-based own resources (the so-called fourth resource) have become the most important position during the past decade (see Table 4), with over 48 percent of total revenues in 1999. They are calculated as a certain percentage of national GNP.[33] The next important financial source are the VAT (value added tax) based own resources with about 35 percent. They are calculated as a certain percentage (1 percent in 1999) of a uniform tax base which comprises the sum of all taxable national turnovers at the final consumption stage. The so-called traditional own resources (mainly tariffs and agricultural levies) have been rapidly shrinking, to a low of about 16 percent in 1999.

The revenue structure is characterized by distributive shortcomings as well. In particular the VAT-based own resources are problematic. They are commonly regarded as internationally regressive because total national private consumption is not an adequate indicator for the national ability to pay. It is generally assumed that the share of private consumption in total national GDP is higher in poor countries so that they are burdened over-proportionately highly by revenues on this base. This revenue source also displays problems concerning personal distribution because of the regressive effects of VAT taxes. Finally, net exporters of manufactured goods are at an advantage, because VAT taxes are levied according to the destination principle; and the rich countries tend to be net exporters.

Table 5 shows that the share of private consumption in total GDP of all poor countries – except Finland and Ireland – was indeed above average in all examined years. But this was also true for the rich countries Belgium, France and even partially for Luxembourg. The correlation between the average consumption rate and the relative income position of a country therefore is not necessarily inverse. Nevertheless it can be stated that this financial source cannot contribute to an internationally progressive revenue system.

Unlike the VAT-based own resources the GNP-based own resources are proportionate to the share of each country in the community's total GNP. They consider a country's ability to pay as a whole. They do, however, disregard differences in per capita incomes across countries; a problem which is true for the VAT-based own resources as well. Because the GNP-based own resources (like the VAT-based own resources) leave the relative income positions in the individual countries unchanged they have been criticized by the poor countries for years.

Practically all experts in public finance agree on the necessity of a reform of the EU's current revenue system, albeit not on its direction. The most common proposition is that the design of the future federal

[32] See http://www.europa.eu.int/scadplus/leg/en/lvb/134002.htm, p. 3.

[33] This so-called GNP-own resource rate is fixed yearly in the budget process.

fiscal system should contain allocative and stability-oriented features. A stronger re-distributive orientation is rejected as being too expensive because it is commonly perceived as a pure expansion of the current interregional transfers. It is questionable, however, whether this far-reaching fiscal abstinence can be sustained in a gradually integrating federation, which is planning to include a number of CEE countries whose relative income positions are lagging that far behind.

Reforms toward a progressive revenue system will gain in importance during the years to come because it is more likely that the convergence process within Europe will experience a reversal instead of further progress. Within the currency union the poor countries have lost the option to compensate for differentials in productivity growth by adjusting exchange rates. Resulting negative impulses for the convergence process within the EU-15 might give rise to demands for additional transfers by the poorer countries. Moreover, the enlargement must deepen divergence across EU countries. Therefore this article argues for a stronger application of a national ability-to-pay principle or even the introduction of progressive elements into future reforms of the European revenue system. Apart from these problems, a substantial part of the traditional revenues (agricultural levies and tariffs) are decreasing in the coming years according to the WTO agreements so that additional financial sources must be found anyway.[34]

Table 5

Share of Private Consumption in Total GDP

	1985	1990	1997
Austria	57	56	56
Belgium	67	64	63
Denmark	55	49	51
Finland	55	52	53
France	61	60	60
Germany	59	54	58
Greece	68	73	73
Ireland	61	58	50
Italy	61	61	62
Luxembourg	65	62	53
Netherlands	59	59	59
Portugal	67	63	64
Spain	64	62	62
Sweden	51	51	53
United Kingdom	61	63	65
EU	60	59	60

Source: Statistisches Bundesamt: Statistisches Jahrbuch des Auslands, various years, table 17.7; own calculations.

The European Commission is well aware of the deficiencies of the existing system of own resources and of the necessity to establish new resources and has worked out a report on possible alternatives in 1998.[35] None of the European Commission's suggestions have been incorporated into the Agenda 2000 agreements. On the contrary, they are a first step to reducing the financial commitments of the rich member countries and therefore the potential for interregional transfer payments. In addition they eliminate potentially progressive elements in the revenue structure by relieving the financial commitments of the countries whose relative income position is above average.

Reforms in the System of Own Resources

The VAT-based own resources are the most problematic financial source, even if in the meantime several modifications have relieved their regressive effects to a certain extent.[36] The European Parliament has suggested replacing the current VAT-based own revenues by a modulated system:[37] each country should employ a uniform surcharge or "piggy-back tax" on its national VAT (e.g. 3 percent) and then transfer the additional revenues to the EU. This solution is not satisfactory either, mainly for the following reasons: VAT are regressive with respect to interpersonal distribution, and a sufficient number of empirical studies prove that these negative effects can only partly be moderated by lower tax rates or tax exemptions for necessities. Neither would this solution correspond to national ability to pay, because the volume of national contributions is still tied to overall national consumption. Approaches to solve these problems are hardly conceivable without introducing over-complicated calculation and collecting methods, increasing the existing non-transparencies; this pillar of the community's revenue system should therefore be completely abolished in the long run.

In their current design the GNP-based own resources, too, are not suited to reduce existing income differentials. It is, however, rather easy to build in a mechanism to relieve countries with lower per

[34] See I. Begg, N. Grimwade: Paying for Europe, Sheffield 1998, p. 52.

[35] See European Commission: Agenda 2000 – Financing the European Union, op. cit.

[36] See I. Begg, N. Grimwade, op. cit., p. 127.

[37] See European Commission: Agenda 2000 – Financing the European Union, op. cit., p. 53.

capita incomes.[38] In July 1998 Spain presented a proposal to reform the current GNP-based own resources, which was supported by Greece and Portugal.[39] In a first step so-called "modulation coefficients" are calculated, reflecting the relative wealth of the individual member countries. No exact formula is suggested to calculate the modified own resources; there is only a hint that relative wealth could be represented by a correction index of per capita incomes in ECU which would be nothing else than the relative nominal income positions presented above (see Table 1). This correction index would be applied to the GNP-based own resources calculated in the current mode, so that countries with a per capita income above average would pay more, countries below average would pay less than under the existing system. Countries whose contributions would rise in any case are Belgium, Denmark, Finland, Germany, France, Luxembourg, the Netherlands, Austria, Sweden and the United Kingdom, at least based on nominal per capita incomes.[40]

In principle the proposal seems well suitable to introduce more progressivity, although the exact mode of calculation has to be discussed. The nominal per capita incomes are no satisfying base for calculating the modulation coefficients, as the actual income differentials are reflected more accurately by per capita incomes at purchasing power parities. The main problem will be to get reliable data in time so that contributions to the budget really account for current income differentials without large time-lags.

Own Taxation Competencies for the EU

It is unlikely that the EU will be able to meet the challenges posed by the enlargement without the "glue" of fiscal equalization, which has to be financed by additional revenues. In the long run, the EU's budget should be based on true own revenues, not on contributions by the members out of national budgets, whose volumes and distribution are constantly disputed. Neither VAT-based nor GNP-based own resources are own revenues of the EU in a strict sense but actually only payments from national budgets. The EU itself has no real autonomy to decide on an eventual expansion of revenues on its own as it has no jurisdictional competencies. It is self-evident that additional budgetary competencies for the EU require the elimination of the current democracy deficits of the EU and an increased legitimacy for its decisions.[41] But then, establishing own levies for financing European activities would be one important measure to introduce an explicit system of fiscal equalization which could be more transparent and efficient than the existing indirect one.

Several tax instruments have been suggested recently. In general it can be stated that a harmonized and parallel introduction of the taxes discussed here – taxes on energy consumption, on interest incomes and on international capital transactions – has one central advantage: it is not possible for single countries to use the reduction or the abolition of these taxes as an instrument in European tax competition, so that each country is forced to contribute its fair share to the European budget. However, not all of the taxes suggested fit equally well into a scheme of international progressivity.

One of the most prominent, but also controversial suggestions is a harmonized energy tax. The merits of such a tax on the emission of carbon dioxide and its introduction in all countries at the same rate and with the same tax base are obvious: it contributes to the internalization of global negative external effects transcending the borders of individual nation states, and therefore it is an important instrument of effective ecological policies. The tax also yields high revenues; the European Commission estimates a fiscal potential of 1 percent of the EU-15's GDP right after its introduction.[42] From the perspective of vertical equity, however, energy taxes cannot be judged as unanimously. On the one hand, the richer countries use an over-proportionate amount of energy compared to the poorer ones, as energy consumption is positively related with economic growth. From this point of view the use of energy is an appropriate indicator of national ability to pay. On the other hand, energy consumption of households and firms in poorer countries tends to be less energy-efficient, so that their tax burden per capita is higher than the rich countries'. More research is necessary to get well-founded insights on the total burden and the total inter-nation distribution effects of the energy tax

[38] See K.-D. Henke: Sozialproduktsteuer, in: Wirtschaftswissenschaftliches Studium, 1988, No. 3, 140-142.

[39] See European Commission, Agenda 2000 – Financing the European Union, op. cit., p. 101.

[40] Using purchasing power parities would diminish the group of rich countries; Finland, Sweden and the United Kingdom would drop out, whereas Italy would have to be included.

[41] See T. Persson, G. Roland, G. Tabellini: The Theory of Fiscal Federalism: What does it mean for Europe?, in: H. Siebert (ed.): Quo Vadis Europe?, Tübingen 1997, pp. 23-41, here p. 29.

[42] See European Commission: Agenda 2000 – Financing the European Union, op. cit., p. 51.

before using it as part of the revenue system of the EU.

Another tax is more suitable to support inter-nation progressivity: a harmonized withholding tax on interest incomes,[43] designed as a minimum tax and collected by every member country. Nowotny estimates revenues of € 66 billion for 1993, based on a tax rate of 15 percent. As the assumption is plausible that the share of interest income increases with growing national income the tax would have progressive effects across countries. The rich countries generally have higher savings rates and therefore a higher share of savings in national income. Their total interest incomes therefore will be larger than those of the poor countries.[44] So national interest incomes are a quite appropriate indicator for national financial capacity. Of course problems of capital flight to third states or the question of tax havens within the EU have to be addressed simultaneously to secure the tax base in the long run.

A tax on international capital transactions according to the concept presented by Tobin already in 1978[45] which he updated several times during the recent years attracted considerable attention earlier this year, when a parliamentary initiative just failed in the European Parliament. The basic motivation of its proponents is to stabilize the international monetary system, but several independent estimations also yield a considerable revenue potential. Taxing capital movements (all spot and futures transactions of foreign exchange and derivatives) into and out of the EU with a rather low rate of maybe one percent would particularly prevent short-term financial transactions induced by small international differentials or changes in interest or foreign exchange rates. It is difficult to evaluate the inter-nation equity properties of a Tobin tax; they crucially depend on who is carrying the tax burden. Like all other transaction taxes, the Tobin tax should be shifted onto the final buyer – be it private household or private firm. In this case, however, the effect with respect to personal income distribution probably tends to be progressive, as the size of capital transactions and therefore the household's tax base is positively related to its income. The same should be true concerning inter-nation equity: the larger a country's overall saving rate, the larger its (international) financial transactions and therefore the percentage share of Tobin tax in GDP.

Conclusion and Outlook

This article has focussed on the revenue side and the effects of special taxes and revenues in general on inter-nation distribution. Future research is necessary to specify and quantify the consequences of different financial sources and their suitability for a more progressive fiscal system within the EU. The consideration of all important aspects, like substitution effects and international tax flight, which influence the long-run stability of the yields of the taxes discussed, would have gone beyond the scope of this article. One important caveat must not be forgotten, however: the discussed problems and measures refer to more progressivity across whole countries, but of course not across regions. Nonetheless, supporting inter-nation convergence is a necessary pre-condition for the poorer countries in particular to alleviate internal interregional disparities. Transfers to under-developed regions do not lose in importance therefore – on the contrary, they become more important with growing interregional disparities.

The basic result of Oates[46] that an efficient supply of public goods requires decentralization when preferences differ between regions can be transferred to the problem of interregional disparities. To combine redistribution with allocative efficiency and subsidiarity several economists[47] have suggested introducing unconditional grants, i.e. replacing the existing conditional transfer payments by unconditional ones that can be used according to the specific development needs of the individual countries. Contrary to this suggestion, most economists insist on the conditionality of the transfers to the member states. They argue that the recipient countries would not use the financial means efficiently for structural policy but waste them on consumptive expenditures. This argument, however, does not have much substance as structural improvement is in the own interest of the recipients.[48] Future work on the fiscal relations within the EU must aim at an optimal combination of instruments on both sides of the budget so that the severe problems of inter-nation income inequalities can be alleviated at last.

[43] See E. Nowotny, op. cit., pp. 136 f.

[44] See the arguments on differing shares in national consumption above.

[45] See J. Tobin: A Proposal for International Monetary Reform, in: The Eastern Economic Journal, 1978, Vol. 4, pp. 153-159.

[46] See W. Oates: Fiscal Federalism, New York 1972.

[47] See e.g. E. Nowotny, op. cit., p. 134.

[48] See F. Heinemann: Der Kompensationsfonds: Eine neue Finanzverfassung für die EU der 21+, in: Wirtschaftsdienst, 1999, No. 5, pp. 293-299, here pp. 296 f.