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Measuring the Size of the Public Sector: A Broad View of Social Expenditure across Countries

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Abstract: Most analyses of public budgets – of which social spending is an important element - are based on gross (before tax) public expenditure data. However, a narrow focus on such information can be terribly misleading as it ignores that governments sometimes claw back social spending through taxation of benefit income, while also using tax systems to directly provide social support to households (e.g. child tax credits). Governments also tell or encourage individuals and companies to arrange social support (e.g. mandatory employer-provided sickness payments or favourable tax treatment of private pension contributions). Accounting for the impact of the tax system on budgetary allocations with a social purpose leads to indicators on net public social expenditure. Also capturing private social spending facilitates considering what part of an economy's domestic production recipients of social benefits draw on: net total social expenditure. These indicators give a comprehensive view of social spending within and across countries.

Zusammenfassung: Analysen der Ausgaben öffentlicher Haushalte, wie etwa der sehr wesentlichen Sozialausgaben, beruhen im allgemeinen auf *Brutto*-Daten (d.h. Staatsausgaben vor Steuer). Dieser enge Blickwinkel kann aber, insbesondere bei internationalen Vergleichen, sehr irreführend sein, weil dabei zwei wesentliche Aspekte unberücksichtigt bleiben: dass Sozialleistungen in unterschiedlichem Maße der Steuerpflicht unterliegen (dass sich der Staat also einen Teil der Ausgaben über Steuern zurückholt), und dass auch über das Steuersystem selbst Sozialpolitik betrieben wird (z.B. durch Gewährung von Kinderabsetzbeträgen). Darüber hinaus setzt der Staat auch Anreize zur Eigenvorsorge (z.B. durch steuerliche Absetzbarkeit privater Pensionsvorsorge) und verpflichtet Betriebe zur Übernahme gewisser Sozialleistungen (z.B. durch Lohnfortzahlung im Krankheitsfall).

Die Berücksichtigung der sozialpolitischen Elemente des Steuersystems führt zu Indikatoren der *öffentlichen Nettosozialausgaben*. Rechnet man auch noch die von Privaten und von Betrieben getätigten Sozialausgaben hinzu, so ergibt sich eine Schätzung der *gesamten Nettosozialausgaben*, also jenes Teiles des Bruttonationalproduktes, der Beziehern von Sozialleistungen insgesamt zufließt – ein umfassender Indikator zum

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Vergleich der Sozialausgaben im Zeitverlauf und zwischen verschiedenen Ländern.

Keywords/JEL codes: Taxation, Subsidies, and Revenue (H2), Government expenditures and Welfare programmes (H53).

1 Introduction

Analyses of public expenditure generally consider the cash and in-kind transfers that are being made by governments. Both for national studies and international comparisons, such information is useful to identify broad trends in government spending and the relative importance of different policy areas of government spending (see Felderer *et al.*, 2000, and Franz, 2001, for a discussion of different areas of government intervention and relevant indicators). Public social expenditure constitutes a large share in all public expenditure. Of course, public outlays vary considerably across OECD countries. In 1997, public spending ranged from about 31% of GDP in the US to 54% in Denmark (Chart 1).[2] Nevertheless, regardless of the overall level public spending across countries, budgetary allocations with a social purpose constitute over half of public spending in most countries. Except in Japan where this proportion is about 35%.

As social spending is such a large part of public spending, it is important to gain a good understanding of social spending within and across countries. There is no OECD or even an European model welfare state: tax and benefit systems vary widely across the OECD area in size, institutional set-up and re-distributional nature. Budgetary constraints and concerns about the heavy tax burden on labour have played a major role in policy drives to curtail the growth of public welfare spending. Differences in the delivery and re-distributional nature of public social (reliance on insurance principles vis-à-vis means testing), also contribute to differences in public spending quota (Adema, 2001*a*). Moreover, public spending quota vary over time with demographic and labour market developments and their overall level is a function of the relative importance of different social policy areas, for example, the provision for retirement, unemployment support or health care (OECD, 2001*b*; 2001*c*; and 2001*d*). These issues, although important, are not the focus of this paper.

This paper argues that information on gross *public* social expenditure is not the most appropriate tool for analysing *all* aspects of social spending. For one, restricting the analysis to public spending ignores the considerable cross-country differences in the

[2] Detailed information that is required to estimate the impact of taxation on cash benefits is collected every two years and becomes available about 2 to 3 years upon closure of the relevant fiscal year. At the time of writing information on the taxation of benefits in 1997 was available for 18 OECD countries, while data for 1999 will become available by the end of 2002. For presentational reasons, this paper presents an eclectic choice of information on 7 countries: Austria, Denmark, Germany, Japan, the Netherlands, the UK and the US. Similar information is also available for Australia, Belgium, Canada, the Czech Republic, Finland, Ireland, Italy, Korea, New Zealand, Norway and Sweden (Adema, 2001).

roles of the individual, family, employer, community and state within each national social protection system. Social protection can be addressed by a spectrum of, frequently interdependent, public and private arrangements, and the public/private social protection mix varies widely across countries. Moreover, it is government intervention that largely affects the extent to which social benefits are provided by the private sector. Indeed, public intervention with a social purpose goes beyond public expenditure *an sich*, as Governments legislate or provide financial support to enforce private employers to spend money on sickness payments or encourage individuals and companies to make contributions to private health insurance or pensions. Section 2 shows that in most continental western European and Nordic countries, social protection is predominantly provided through public systems, whereas in other industrialised countries as, for example, the United States the role of private social benefits is relatively large.

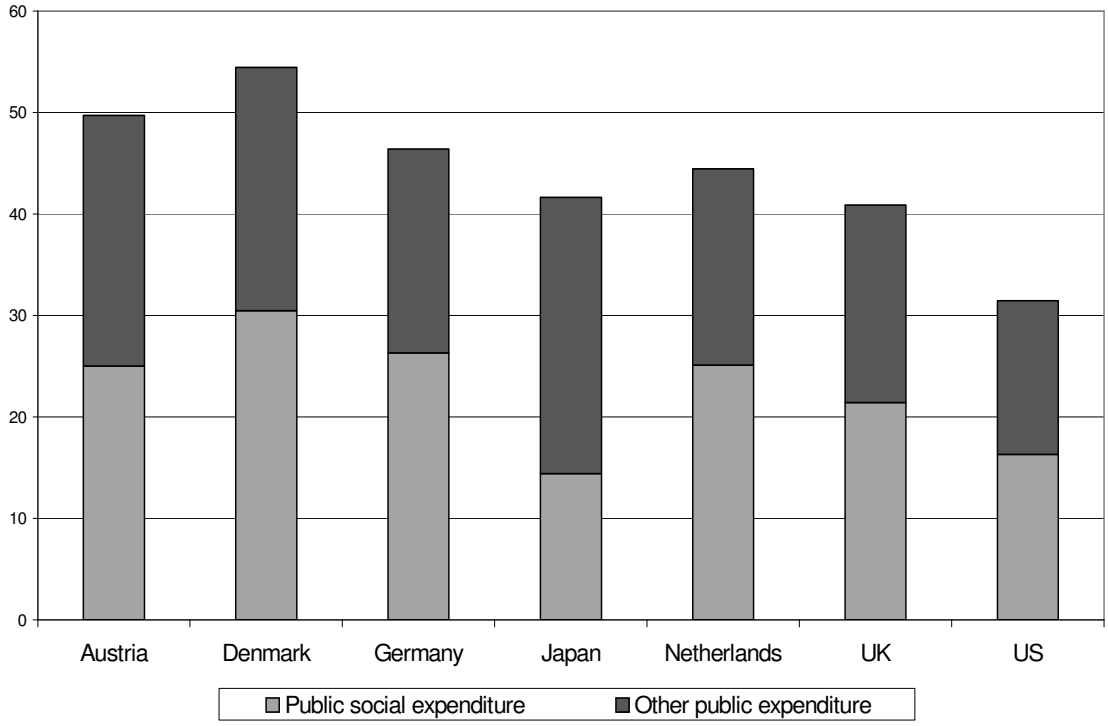

Chart 1. Public expenditure, 1997
per cent of GDP

Sources: OECD (2001 and 2001*a*).

Second, considering *gross* (before tax) public and private social cash transfers and services does not account for the considerable impact tax systems can have on a) on the real value public social spending, and b) what part of an economy's domestic production recipients of social benefits draw on. Section 3 shows that the tax system affects the net (after tax) value of social benefits as governments partially "claw back" benefit expenditure through taxation. Furthermore, Governments can pursue social policy objectives through the tax system, and the value of these measures is not reflected in the gross public social expenditure totals as in the *OECD Social Expenditure Database* or the *National Accounts* (OECD, 2001, and 2001*a*). Because

budgetary allocations for social spending ignore the impact of the tax system, it is worth considering the extent to they give a good view of public and social effort within and across countries. Capturing both the impact tax system have on the net value of transfer spending and private social benefits leads to a more comprehensive view of social effort across countries (Section 4).

2 What are Social Benefits?

This chapter compares social expenditure across countries. In order to do so, the first step is to demarcate what spending is "social" and what is not. The OECD defines social expenditures as (OECD, 2001):

> The provision by public and private institutions of benefits to, and financial contributions targeted at, households and individuals in order to provide support during circumstances which adversely affect their welfare. Provided that the provision of the benefits and financial contributions constitutes neither a direct payment for a particular good or service nor an individual contract or transfer.[3] Such benefits can be cash transfers, or can be the direct (in-kind) provision of goods and services. Since only benefits provided by institutions are included, transfers between households - albeit of a social nature, are not.

Thus, social support concerns the provision by public and private institutions of benefits and financial contributions targeted at households during circumstances adversely affecting their welfare. Social benefits[4] include cash benefits, social services and tax breaks with a social purpose, *e.g.* tax expenditures towards families with children (see section 3). However, these tax breaks with a social purpose are generally not included in public social expenditure totals in the National Accounts or the Social Expenditure Database.

2.1 Public vis-à-vis Private

The distinction between public and private is on basis of whoever controls the relevant financial flows; public institutions or private bodies (SNA, 1993). Social benefits are regarded as public when general government (that is central, state, and local

[3] Social benefits do not include remuneration (wages and salaries) for work, as it does not cover market transactions, *i.e.* payments in return for the simultaneous provision of services of equivalent value. Employer costs such as allowances for transport costs, holiday pay, etc. are part of remuneration in this sense.

4 Social expenditure or social spending concerns an aggregate of all (or a group of) social benefits. It does not include contributions and other payments by households that finance social programmes. Such payments are considered to be "social contributions" although they are an expenditure item from the perspective of the contributor.

governments, including social security funds) controls relevant financial flows. Sickness benefits financed by compulsory employer and employee contributions to social insurance funds (receipts) are by convention considered public, whereas mandatory (or compulsory) sickness payments paid directly by employers to their employees are private. Here, all social benefits provided by governments to their own employees are considered to be public.[5] All social benefits not provided by general government are within the private domain. Thus, throughout "private" is not the opposite of "social", but of "public".

2.1.1 Mandatory and Voluntary Private Benefits

Within the group of private social benefits, a further distinction is made concerning the nature of provision. Sometimes, governments mandate - force by legislation, employers to provide benefits to their employees, or mandate individual and/or employers to make contributions to private funds from which benefits accrue. All such benefits are regarded as *mandatory private social benefits*. Private benefits with a social purpose made by employers on a voluntary basis or that do not derive from mandatory contributions to insurance plans that redistribute resources among the insured population, are considered voluntary. Such benefits are considered to be *voluntary private social benefits*. Private benefits that are not considered to be social are categorised as *"exclusively private"* (see below).

2.2 Social vis-à-vis Not Social?

Two main criteria have to be simultaneously satisfied for some expenditure item to be classified as "social". First, the benefits have to be intended to address one or more social purposes. Second, In order to be considered social, programmes regulating the provision of benefits have to involve a) inter-personal redistribution, or b) compulsory participation.

2.2.1 Towards a Social Purpose

The purpose of the benefits is one factor in the delineation of what is social and what not. The *OECD Social Expenditure Database* groups benefits with a social purpose in 13 policy areas: old-age cash benefits; disability cash benefits; occupational injury and disease; sickness benefits; services for the elderly and disabled; survivors; family cash benefits; family services; active labour market policies; unemployment compensation; housing benefits; public health expenditure; and other contingencies, *e.g.*, cash benefits to those on low income (OECD, 2001). Thus, for example, public support to general savings programmes or life insurance arrangements is not considered social. Similarly,

[5] The National Accounts consider sickness payments by the government to its employees as public, and some pension payments (e.g. those paid through capitalised funds) to its former employees as private. Here all social benefits to public employees and former employees are regarded as public as they constitute a public liability.

fiscal support towards children is considered social, whereas favourable tax-treatment because of marital status is not. In most OECD countries, public benefits cover most, if not all, of the aforementioned policy areas. Private social benefits, however, mainly concern pension plans that provide income in retirement or to survivors and incapacity–related payments. In some countries, notably the US, private health benefits also play an important role.

2.2.2 Inter-personal Redistribution or Compulsion

Benefits are "social" if entitlement to receive benefits with a social purpose is not the result of direct market transactions by individuals given their individual risk profiles, or in other words, if programme rules involve the inter-personal redistribution of resources among programme participants. Public benefits with a social purpose practically always involve redistribution across households: public programmes are either financed through general taxation or social security contributions, and this leads to the redistribution of resources across the population or within population groups (*e.g.* all adherents to an unemployment insurance fund).

Inter-personal redistribution in private programmes is often introduced by government regulation or fiscal intervention. In case of mandatory benefits employers/individuals are forced to take-up protection provisions regardless of their risk-profiles or prevalent market prices. Public fiscal intervention to stimulate private take-up on a collective or individual basis means that the take-up decision is not fully determined by the individual risk-profile or prevalent market price (the same holds for social benefits derived from collective agreements or taken out by employers on a collective basis). As such there is a high degree of similarity between these arrangements and legally stipulated private arrangements.

In contrast, take-up of individual insurance, even with a social purpose, is a matter for the persons concerned, and premiums are based on the individual preferences and the individual "risk profile". For example, if someone takes out private pension insurance which is "actuarially fair", then there is no necessary redistribution across households. The insurance company will decide the price so that the individual can expect to receive back in compensation payments exactly what it costs him or her. This type of expenditure is considered *"exclusively private"* and not social. If, on the other hand, the government subsidises the insurance payment (*e.g.* through favourable tax treatment of individual pension plans)[6] or subsidises sick people via risk-sharing (*e.g.* through forcing insurance companies to have one price for both sick and healthy people) then there is redistribution between households, and the expenditure item is considered social.

Furthermore, social benefits are also defined to include some (public and private) pension programmes that are actuarially fair (for example, notionally defined contribution plans) if participation in these programmes is compulsory. In the absence of risk-sharing or public financial support, such plans do not necessarily involve ex ante

[6] Therefore, individual pension plans such as the individual retirement accounts in the US, and pension payments deriving from compulsory contributions to private plans (as in Australia, Switzerland and the UK) are considered social (Adema, 2001).

redistribution of resources across households even when participation is compulsory. Nevertheless, just as the provision of tax relief, compulsion reflects a policy judgement that coverage of these plans is desirable, and hence, these programmes are considered social. In fact, compulsory actuarially fair plans often also contain an element of inter-personal redistribution: they are tax advantaged or governments pay the contributions on behalf of participants who are unemployed, sick or otherwise unable to pay the mandatory contributions (as under the new Swedish private pension programme).

Table 1 summarises which expenditures are social and which are not. Programmes that involve an element of inter-personal redistribution are considered social as are actuarially fair programmes based on compulsory participation. Generally, social expenditure programmes include means-tested and public insurance benefits as well as private plans with a social purpose (*e.g.* pensions and health plans) that are mandatory or tax advantaged. The distinction between public and private social expenditure is solely made on the basis of whoever controls the relevant financial flows: public institutions or private bodies. Thus, sickness (and other social insurance) benefits financed by compulsory employer and employee contributions to social insurance funds are considered public, whereas compulsory sickness payments paid directly by employers to their (sick) employees are private. Similarly, pension benefits for private sector employees accruing from past contributions to private funds are private.

Table 1: Categorisation of benefits with a social purpose

	Public		Private	
	Mandatory	Voluntary	Mandatory	Voluntary
Redistribution	Means-tested benefits, social insurance benefits	Voluntary participation in public insurance programmes	Employer-provided sickness benefits	Tax-advantaged benefits
No redistribution	Benefits from notionally defined contribution plans	Benefits from notionally defined contribution plans	Non tax-advantaged actuarially fair pension benefits	Non tax-advantaged actuarially fair pension benefits

The shaded cells reflect benefits that are not classified as social.

2.3 The Value of Social Benefits before Taxation

In all countries most social support is publicly provided (Chart 2). However, the share of public in total social spending varies considerably across countries. In Denmark, Germany and Japan public spending constitutes around 94% of all social spending, and this is about 85% in Austria, the Netherlands and the UK. About one-third of all social spending in the US is private.

There also is considerable cross-country variation in the focus of public social spending (OECD, 2001). For example, Austria and Germany might be regarded as a "public pensioner states" as public spending towards those in retirement ranged from 11 to 13% of GDP in 1997: the other governments spent about 6 to 7 % of GDP on support for those in retirement (OECD, 2002). At about 6% of GDP, public spending on social services, including public child-care facilities, is much more important in Denmark than

in any of the other countries considered here, where similar spending amounts to 2% of GDP. At close to 10% of GDP, Denmark and the Netherlands spend more than the other countries on income support to the working age population (e.g. unemployment, disability and family cash benefits). Public expenditure on health is always an important item on public budgets and ranged from 6 to 8% of GDP in the seven countries considered here (OECD, 2001*d*).

Mandatory private social benefits make up a relatively small part of all social expenditure. At 4.5% of all social spending, mandatory private benefits are most important in Germany -- spending concerns the so-called "Entgeltfortzahlung". Indeed, across countries mandatory private benefits often concern incapacity-related benefits: sickness, disability and benefits provided in the context of occupational injuries and accidents. Mandatory private social benefits can also accrue from mandatory pension contributions to employer-based and/or individual pension plans, as in Japan and the UK.

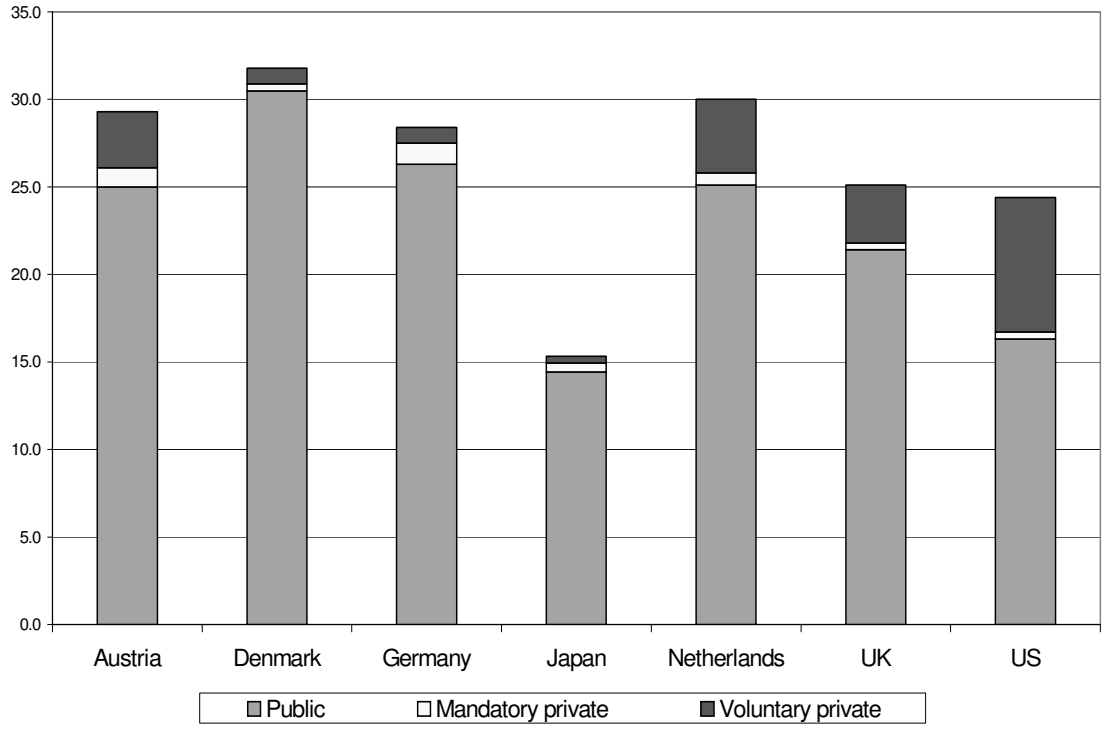

Chart 2. Social expenditure, 1997 (1)
per cent of GDP

Source: Adema (2001).

(1) Information on private social health expenditure in Japan is not yet available.

Voluntary private social benefits can be important in countries where public provision is relatively low, *e.g.* the United States. The role of private health insurance is considerable in some countries including the US (but also in Switzerland). In the absence of public health insurance system with universal coverage, employment-related private social health benefits in the US amounted to about 4.2% of GDP in 1997 – these

expenditures do not include payments by individuals for health services.[7] Pension benefits constitute a major component of voluntary private social benefits in all countries. The aggregate of private pension payments ranges from around 0.5% of GDP in Austria and Japan, to almost 1% of GDP in Denmark and Germany, and exceeds 3% of GDP in the Netherlands, the UK, and the US. All these countries know employment-based tax advantaged pension benefits, while benefits stemming from individual-based tax-advantaged private pensions are recorded for the United Kingdom and the United States. Data on current private pension payments do not, however, fully reflect the importance of private pension programmes. Often current contributions (and assets held by pension funds) by far exceed the magnitude of current benefits. Hence, the importance of these private pension benefits is expected to grow with maturing pension plans.

Other examples of private social benefits include supplementary unemployment compensation (in the United States), employer-provided child-care support, maternity pay and parental leave provisions. Non-commercial non-government organisations (NGOs) also provide important social support. However, comprehensive data on employer-benefits for parents and social services provided by NGOs that is comparable with the detailed information in the *OECD Social Expenditure Database* is not available, but for a few countries. Available information on private social expenditure is generally considered to be of lesser quality than information on public spending. That is no surprise given the voluntary nature of many benefits. In the absence of compulsion, there are often no strong incentives for institutions that provide voluntary social benefits to report relevant information to a central authority. National Statistical Offices often obtain information on pension spending from organisations that supervise or represent pension funds. Fiscal authorities may also have a good view on tax-related spending, as in order to qualify for tax advantages individuals, employers, and private (pension) funds have to report their expenses. However, detailed information held by tax authorities often concerns contributions to pension plans, rather than payments -- which are often grouped under income without detail on the (underlying pension) plan.

3 Tax Systems and Social Expenditure

By its very nature information on gross (before tax) public and private social expenditure ignores the impact that the tax system may have on benefit income. However, in some countries benefit recipients can pay tax over their benefit income, and they also pay tax over the consumption they finance with their benefit income, although some goods and services are tax exempt. Also considering that governments

[7] Data on public expenditure on health were taken from OECD (2000*d*). Indicators on private social health expenditure are estimates on the benefits to recipients that derive from private health plans that contain an element of redistribution. Available data on "out-of pocket health spending" is not included, as it does (not yet) distinguish between individual co-payments and other individual expenditure. By not including data on individual payments, the estimates on private social health benefits are thus likely to underestimate the "true" social extent of private health care expenditure.

sometimes give tax advantages to participants in private protection plans, it is clear that the tax system can have an important impact on social spending. Hence, gross spending indicators may give a misleading view of social effort within and across countries.

To obtain a more comprehensive view of social effort three fiscal items have to be accounted for: 1) Direct taxes, including social security contributions levied on benefit income; 2) Indirect taxes on consumption out of benefit income; and 3) Tax breaks with a social purpose.

1 **Direct taxation of benefit income.** Governments can levy income tax and social security contributions on cash transfers to beneficiaries, and thus directly claw-back a part of the income transfer they awarded. Hence, social redistribution of resources can be lower than suggested by gross spending indicators.

2 **Indirect taxation of consumption by benefit-recipients**: Benefit recipients generally use benefit income to finance consumption of goods and services, and these indirect taxes flow back into the Exchequer. Similar to direct taxation, differences in indirect taxation across countries have implications for social support received by households.

3 **Tax breaks for social purposes**: Governments also make use of the tax system to directly pursue social policy goals. Fiscal measures with social effects are those which can be seen as replacing cash benefits (*e.g.* child tax allowances) or stimulating the provision of private benefits (*e.g.* tax advantages for the provision of private child-care facilities). Such tax-advantages can be given to households, employers and private (pension) funds.

Tax systems can significantly affect the degree to which expenditure budgets reflect true public social effort. Usually, governments claw back more money through direct and indirect taxation of public benefits than the value of the tax breaks awarded for social purposes. Hence, *net public social expenditure* is generally less than gross spending indicators suggest. Simultaneously, because of direct taxation of benefits and the indirect taxation of goods and services acquired that are financed with it, benefit income at the disposal of households is substantially smaller than suggested by gross indicators. Accounting for tax rates on public and private social benefits, facilitates the identification of the proportion of an economy's domestic production to which recipients of these benefits lay claim; *net total social expenditure*.

The adjustments discussed below measure "first round effects" concerning the net value of benefits. Hence, direct taxation of the earnings of those who provide services (*e.g.* staff in hospitals or childcare centres) is not included in the calculations. Finally, adjustments for direct and indirect taxation of benefits do not concern service spending (including health). The value of social services remains unaltered by the calculations.[8]

[8] Some services, *e.g.* pharmaceutical products, are subject to indirect taxation. However, comprehensive data on that part of social services which is subject to indirect taxation and at what rate is not available.

3.1 Direct Taxes and Social Security Contributions on Transfers

In some OECD countries almost all benefits are paid net of tax; in others they are taxed in the same way as income from work. In countries where governments levy direct income tax and social security contributions on cash transfers to beneficiaries, public social effort and redistribution of resources is lower than suggested by gross spending indicators (although this effect varies from country to country). For example, in Austria the recipient of an unemployment benefit whose last earnings were those of an average production worker (APW) and who lived in a "two-adult one-earner" family with two children received the equivalent of $15,991 in 1997, on which he or she did not pay tax. By contrast, a similar person in the Netherlands received annual unemployment benefits of $24,717 but paid $6,295 in income taxes and social-security contributions, so that net benefit income was $18,423 (OECD, 1999). Thus, net income for unemployed individuals in the Netherlands is higher than in Austria, but differences are not as large as gross payments suggest.

In aggregate spending terms, this means that countries that tax transfer income rather heavily also divert a significant part of transferred income to flow back into the coffers of the Treasury. Hence, net (after tax) public social spending on unemployment benefits is about a quarter below the level suggested by gross indicators in the Netherlands. Similarly, mandatory and voluntary private social cash benefits (often sickness payments and private pensions) are subjected to direct taxes and social security contributions; thus relevant net amounts are lower than gross spending indicators suggest.

The adjustment for direct taxation on cash benefits has been calculated on basis of estimates supplied by national sources on "average itemised tax rates" (AITR): the average tax (including social security contributions) paid on a particular spending item, *e.g.* average tax paid on public pension income. Subsequently, the AITRs were applied to the detailed equivalent gross spending item as recorded in the *OECD Social Expenditure Database* (OECD, 2001).

The AITRs were estimated on basis of a variety of national sources including, administrative data on basis of tax records, micro data sets and/or "microsimulation-models". The most reliable source of information is administrative data held by tax offices (or social insurance funds for social security contributions) or sufficiently detailed information published by national statistical offices.

In the case of Austria, information on the taxation of old age, disability and survivor pensions was taken from income and earnings statistics as published by Statistics Austria (Statistik Österreich, 2000 and 2000*a*). Information needed to estimate the AITR on continued wage payments in case of sickness could have been taken from the same source. However, in order to obtain the highest possible degree of cross-country comparability, AITRs on such benefits are obtained by using the tax equations underlying the OECD Taxing Wages publication (OECD, 2000*e*). Although the latter does not capture the earnings distribution in countries, the differences in the AITRs so calculated were very small (29.5 vis-à-vis 28.2%). Information on the taxation of benefit income for Germany, the United Kingdom and the United States was obtained

from national Tax authorities. German and Japanese data were obtained through social policy ministries who co-operated with national tax authorities.

In the absence of administrative data, "microsimulation-models" and micro data sets which contain detailed information on both the incomes received by households and their taxation, were used to generate itemised tax rates. Microsimulation models underlie the estimates on direct taxation of benefits in Denmark and the Netherlands. As tax systems are based on annual incomes, the starting point is yearly incomes. Sometimes transfer income is the only income received, and if so, the average tax rate on this income can be used to calculate net transfer income. The calculation of direct taxation of benefit income is somewhat more complicated when different types of income are involved; either more types of benefit, or work income combined with, for example, unemployment benefit. In this case it is necessary to link taxes paid to the various components of income. The underlying assumption is that the tax due is divided over the different income components according to the weight of each type of income. Hence, if benefits provide 80 per cent of annual income and earnings just 20 per cent, 80 per cent of the total tax is assumed to be paid on benefit income.

The results clearly show that there are large differences in levels of direct taxes and social security contributions paid by recipients of social benefits across countries (Chart 3). As the first panel shows direct taxation paid by benefit-recipients amounts to more than 4% of GDP in Denmark and close to 4% in the Netherlands, whereas tax payments by benefit recipients in Japan, the UK and the US amount to less than 05% of GDP. Direct taxation levied on cash transfers amounts to 18% of total social expenditure in the Netherlands, while this is 9% for Austria, and slightly over 1% in Japan.

These aggregates mask the considerable variation in the way in which different benefits are taxed. Means-tested benefits are often not taxable, while among public social benefits, pensions paid to former civil servants and other public employees are taxed most heavily in all countries. Disregarding payments to (former) public employees, taxes and social security contributions levied on public pensions and disability cash benefits amount to less than 3% of all relevant spending in Germany[9], Japan, the UK and the US. In these countries, taxation of unemployment benefits is similarly low.

Family allowance and family support benefits are generally not taxed nor subject to social security contributions. Direct taxes on family cash benefits in Germany concern family-related wage supplements to civil servants.

In all countries the tax to gross benefit spending ratio for private pensions is high compared to other benefits, but only Denmark are private pension payments taxed the most heavily. In most countries, pension income is subject to tax rules (*e.g.* age allowances) that are favourable compared to those applying to the working-age population. The tax to gross benefit spending ratio for private pensions is 37% for Denmark, 25% for the Netherlands; around 16% in Austria and Germany; around 10% in the UK and the US, and is less than 3% in Japan (Adema, 2001).

[9] The direct tax amount recorded for Germany on public benefits in Chart 3 largely concerns social security contributions paid on public benefits and taxation of civil servant pensions. Reliable estimates on direct tax levied on pensions paid through the statutory pension system are not available.

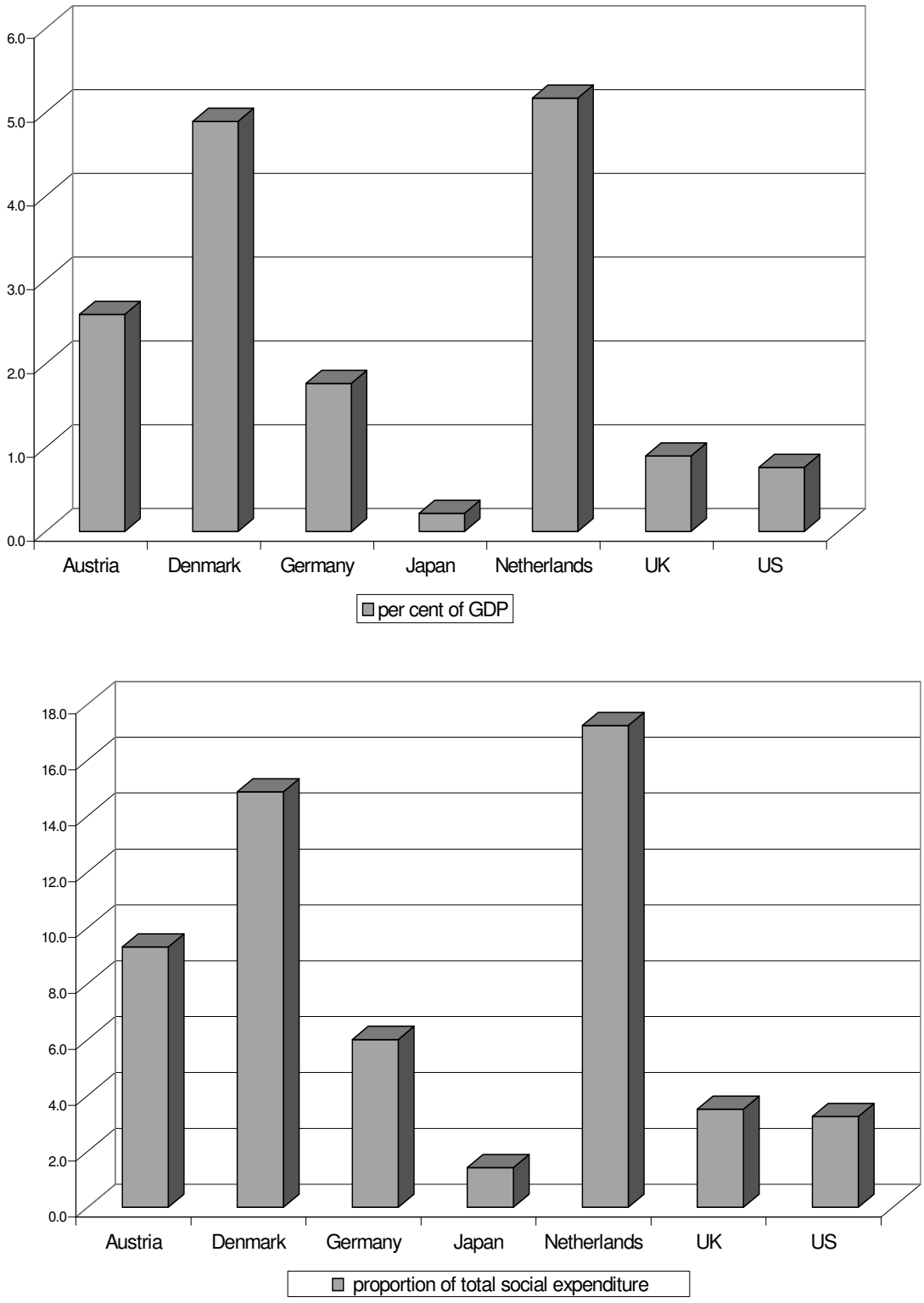

Chart 3. Direct taxes paid benefit recipients, 1997

Source: Adema (2001).

3.2 Indirect Taxes

Recipients of social benefits generally use their benefit income to finance consumption of goods and services such as housing, food, clothing and so on. For example, in Germany in 1997 duties on coffee amounted to about $1.3 billion – (OECD, 2000*f*), part of which was paid by benefit recipients. Thus, consumption taxes reduce the real value of consumption which can be financed out of a given level of benefits, and also establish another flow of back in tax receipts to the Exchequer. For example, in order to provide benefit recipients with a net income of 100 units, a country like the US with an average indirect tax rate of slightly over 5% needs to pay a gross benefit of about 106 units. In Denmark, where the average indirect tax rate exceeds 25% a gross payment would have to be around 132 units to have an equivalent net value. Obviously, the flow back of revenue generated by indirect taxation of benefit income is much higher in Denmark than in the US.

It would have been desirable to allow for different spending patterns between income groups by using data sets on household expenditure patterns. The detailed information in such surveys theoretically facilitates the calculation of implicit indirect tax rates by group of beneficiaries. However, data sets of this type are not readily available for all countries. Moreover, consumption surveys suggest tax payments that are well below actual tax receipts (Adema *et al*, 1996).

Therefore, the approach followed here is to calculate an average implicit indirect tax rate based on aggregate data available for all countries. This simple approach, while approximate, is clear and transparent.[10] Of the different measures of indirect taxation (OECD, 2000*f*), the aggregate of general consumption taxes and excises appears the most appropriate as alternative measures are more likely to include items of indirect taxation that are not paid by the household sector (for a full discussion, see Adema, 2001). Private consumption aggregates can be taken from the National Accounts. However, the OECD Revenue Statistics includes tax revenue collected by government from itself. For example, if one part of government purchases some goods and services, it may be charged indirect tax (which constitutes a tax flow within the government sector). To reflect this, government consumption expenditure is added to private consumption expenditure while subtracting that part of government consumption which consists of compensation of employees. In this manner, a consistent approximation of the tax base of indirect taxes is found.

The average implicit indirect tax rate is then the ratio of revenue from general consumption taxes and excise to private consumption and government consumption minus government wages. Chart 4 shows that the implicit average indirect tax rates are lowest in Japan and the US. Indirect tax rates are about 15% in most European countries, and are highest in Denmark at about 25%. Hence, indirect taxation levied on consumption of benefit income is highest in Denmark worth about 3.5% of GDP, whereas this is only half a percent of GDP in Japan and the US. This implies that net

[10] The chosen methodology may also be criticised for implicitly assuming that benefit recipients do not save but consume all their benefit income. However, the marginal propensity to consume out of benefit income is probably close to 1. Hence, resulting errors should not be overestimated.

transfers from government to households particularly in European countries are rather less than gross expenditure figures suggest.

Policymakers have recognised the link between indirect taxation and the position of those with low incomes or receiving benefit income. The extension of the VAT base to cover domestic fuel in the UK in 1993, for example, was accompanied by changes in benefit payments (particularly to the elderly) to compensate them for the reduction in the real value of the benefits. Similarly, recent tax reform in Australia brought about the introduction of the Goods and Services Tax in July 2000 at a rate of 10%, although food is exempt (other basic items are taxed). A compensation package (through the direct tax and social security systems) for social security recipients was an integral part of the reform.

3.3 Tax Breaks for Social Purposes

Many governments of OECD countries pursue social policy objectives through the tax system. Two main types of such measures can be distinguished. One is reduced taxation on particular sources of income or types of household. For example, old age pensions could be taxed at a zero or reduced rate which would lead to "revenue foregone" of a specific value and constitute "tax expenditures". This sort of tax relief is equivalent to a variation in direct taxation of benefit income and has already been accounted for in the section on direct taxation (see above). So, in order to avoid double counting, the estimated value of this particular tax advantage is not considered here. For example, income tax exemptions for those receiving "Long-term incapacity benefit" in the United Kingdom are accounted for while establishing the amount of direct taxes paid over benefit income and are not covered again in this section.

The second group of tax measures with social effects are those which can be seen as replacing cash benefits or stimulating the provision of private expenditures (*e.g.* tax advantages for the provision of private child-care facilities). These are termed tax breaks for social purposes, which are defined as:

> "those reductions, exemptions, deductions or postponements of taxes, which: *a)* perform the same policy function as transfer payments which, if they existed, would be classified as social expenditures; or *b)* are aimed at stimulating private provision of benefits".

Information on the revenue foregone through tax breaks with a social purpose can often be found in so-called "Tax Expenditure Statements" as published by national authorities. However, it is not always possible to obtain a very detailed level of information on the nature of tax breaks (see below). For example, TBSPs as recorded for Austria include an item on the tax revenue foregone regarding contributions to health, accident and pension insurance:, but information on the importance of each of these individual components has not been published (Versicherungsbeiträge -- § 18 Abs. 1 Z 2, Bundesministerium für Finanzen, 1998).

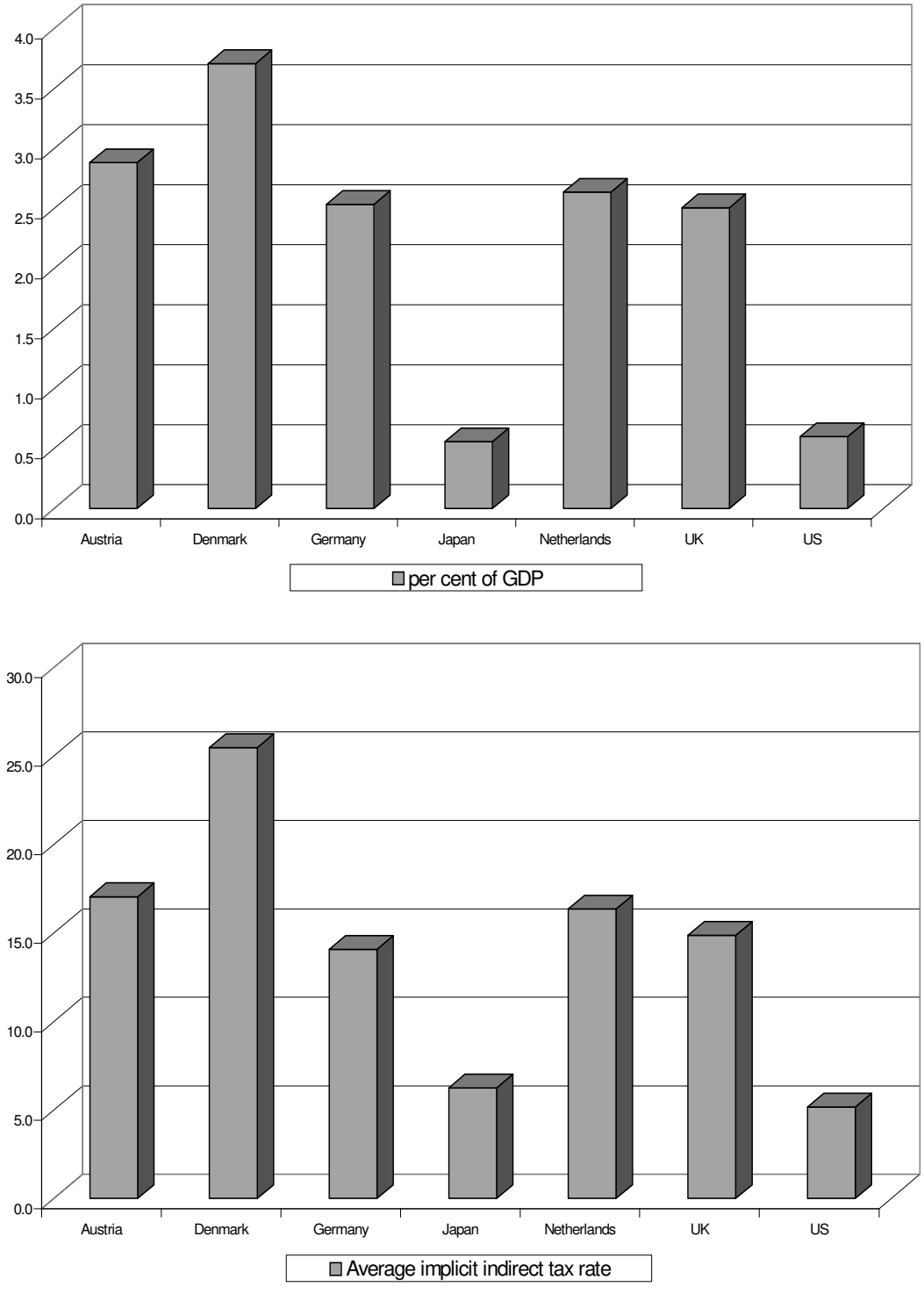

Chart 4. Indirect tax paid out of consumption of cash transfers, 1997

Source: Adema (2001).

3.3.1 Tax Breaks that Mirror Cash Benefits

Tax breaks which mirror the effect of cash benefits can be substantial. For example, in Germany the value of tax allowances for families with children approximated $32.5 billion in 1997. Tax authorities in Austria operate similar support measures to families with children. However, for the largest part these benefits are paid in cash, whereas in Germany these benefits are mainly offset against tax liabilities. Hence, the Austrian child benefit is included in the *OECD Social Expenditure Database*, whereas the German measure is considered here.

The "Earned Income Tax Credit" (EITC) in the United States also illustrates the relationship between direct cash transfers and tax breaks for social purposes. In 1997, the cost of this programme amounted to almost $30.5 billion, of which $6.1 billion in the form of tax credits -- and thus regarded as a fiscal measure (OECD, 2001*f*) that mirrors a cash benefit, while $24.4 billion concerned tax credits exceeding tax liabilities of recipients. The latter amount concerns direct transfer payments from the government to the recipient and, as such, are considered as (untaxed) direct social expenditures (OECD, 2001).

The presence of dependent children leads to eligibility to cash benefits in social protection systems, whereas a marriage contract does not. Hence, TBSPs that mirror cash benefits include the value of tax advantages towards the presence of dependent children. But, tax advantages for married people, as exist in for example, Germany and Japan are not considered to serve a "social purpose", and are therefore not included in the calculations (regardless of whether or not such measures are part of the basic tax structure).

3.3.2 Tax Breaks Aimed at Stimulating Private Provision of Benefits

The TBSPs, which are aimed at stimulating take-up of private provision, consist of two broad groups. First there are tax breaks towards "current" private social benefits. These tax breaks are aimed at stimulating the provision of private social benefits in the current year such as voluntary private unemployment or health insurance, or benefits provided by NGOs. In line with the relative importance of voluntary private social benefits in the US it is no surprise that such tax breaks are most prevalent in that country: the value of tax advantages concerning employment-related medical insurance and health expenses amounted to over 0.8% of GDP in 1997.

The TBSP-concept includes fiscal measures aimed at stimulating private pension take-up. However, due to the complexities of calculating of tax reliefs that are given at various stages of what is a form of contractual savings (*e.g.* tax exemptions for contributions to private pensions, and tax relief for investment income of capitalised pension funds), there is no comparable data set available on the value of tax breaks for pensions (Adema, *et al.*, 1996). Therefore, these estimates are not included in Chart 5. Nevertheless, available information indicates that the value of favourable tax-treatment of private pension arrangements can be considerable, and in the United Kingdom amounted to 2.4 per cent of GDP in 1997 (Adema, 2001).

3.3.3 Importance, Impact, and Redistributive Nature of Tax Breaks for Social Purposes

Chart 5 shows that Germany and the US use their tax system relatively extensively to pursue social policy objectives. Indeed, this form of social provision is generally less important in countries with relatively high direct tax levies such as Denmark and the Netherlands. The value of TBSPs in Germany mainly reflects the fiscal support measures for families with children. And although the tax-part of the EITC is significant in value, the main TBSP in the US concerns fiscal support towards the private health benefits.

Nevertheless, it is impossible to be precise on the extent to which tax advantages are instrumental in stimulating private coverage or mainly serve to finance expensive private systems whose degree of efficiency is debatable - as, for example, private health insurance in the US. Tax breaks certainly affect individual behaviour, but whether they induce much additional saving on a national basis is a matter of debate. For example, in the late 1980s individual retirement accounts were introduced in the US. Favourable tax treatment towards this programme certainly increased its popularity, but induced little new pension savings, as in 1990 82% of all programme contributions were "rollover contributions" from other employment-based plans (Adema and Einerhand, 1998).

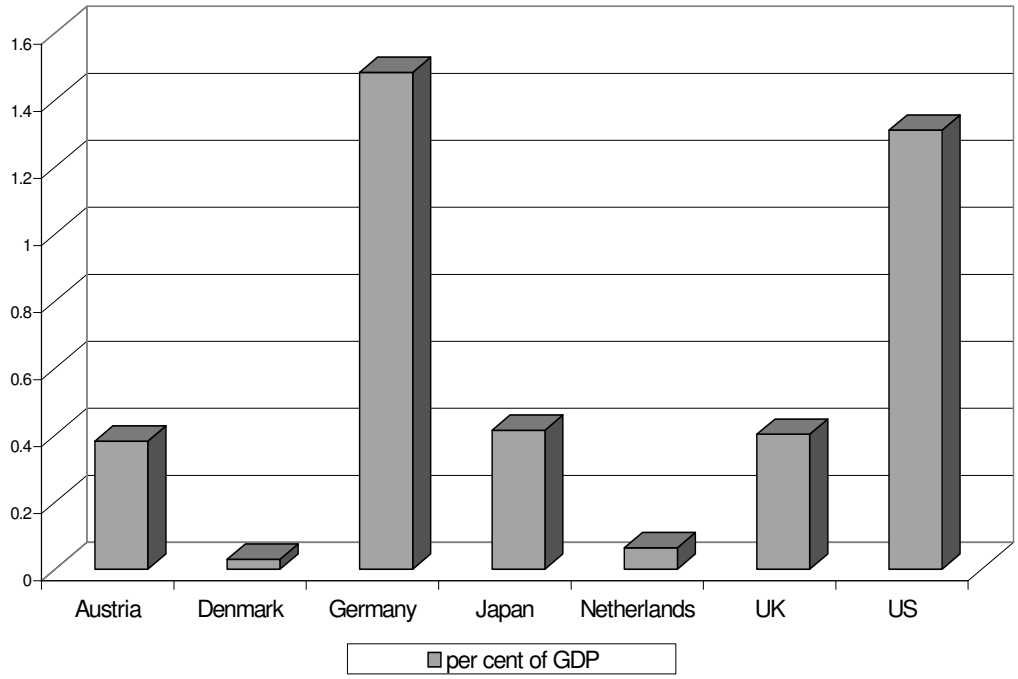

Chart 5. Tax breaks with a social purpose, 1997
(not including TBSPs to pensions)

Source: Adema (2001)

Public financial support towards private programmes certainly establishes a redistribution of public resources. But this redistribution of resources is more likely to benefit the relatively well off more than those with lower incomes. For example, redistribution in private health care plans in the US largely occurs within employer-sponsored health care plans, implicitly transferring expenditures from the healthy to the ill. The sizeable tax breaks clearly provide important incentives to employers to provide health benefits, but are in itself regressive in impact, as the resultant tax relief is greatest for those with the highest earnings.

4 Social Expenditure across Countries

In order to facilitate international comparison of spending indicators, information on gross benefit spending, their taxation and tax breaks with a social purpose has to be pulled together in a framework that derives net social expenditure indicators. Adema (2001) contains a step-by-step discussion of that framework that is summarised below (Table 2).

First of all, to get from gross to net public social expenditure the value of direct taxes and the imputed value of indirect taxation on goods consumed out of public benefits that is clawed back by the government has to be subtracted from gross public social expenditure (1). Subsequently, the net value of TBSPs that mirror cash benefits and the value of TBSPs towards current private benefits are added to obtain *net public social expenditure* (2). From the government perspective, net public social spending gives a comprehensive impression of all budgetary efforts in the social field and the proportion of net social output reallocated to benefit recipients. Similarly, private social benefits are also subject to direct and indirect taxation, and their value has to be subtracted from gross private social expenditure (3), to obtain net private social expenditure (4).

Tax breaks towards current private social benefits are tantamount to financing private social benefits.[11] Thus, while these TBSPs are clearly a public expenditure item, they finance private benefits and simply adding net public social expenditure to net private social expenditure would overestimate the amount of support received by households. Hence, while adding net public and private social benefits (lines 3 and 4 in Table 2), the value of TBSPs to current private social benefits has to be subtracted in order to obtain an indicator on *net total social expenditure* (5). This indicator quantifies the proportion of an economy's domestic production at the disposal of recipients of social benefits.

[11] Ideally, the value of tax breaks aimed at stimulating private benefit provision would be netted out against the direct and indirect taxes levied on the private benefits it generated. However, as noted above, it is not possible to determine to what extent these TBSPs actually affect take-up of private benefits, and therefore this calculation was not attempted.

Table 2: From gross to net social expenditure indicators

1		**Gross public social expenditure**
	-	Direct taxes and social security contributions paid out of public cash benefits.
	-	Indirect taxes on private consumption financed by net cash transfers
	+	The net value of TBSPs that mirror cash benefits and towards "current" private benefits (TBSPs for pensions are not included).
2		**Net public social expenditure**
3		**Gross private social expenditure (mandatory and voluntary private benefits)**
	-	Direct taxes and social security contributions paid out of private cash benefits.
	-	Indirect taxes on private consumption financed by net private cash transfers
4		**Net private social expenditure**
5		**Net Total social expenditure (2+4)[1]**

(1) In order to avoid double counting, net total social expenditure is obtained by adding up net public and net private social expenditure while subtracting tax breaks towards "current" benefits (an expenditure item from the public perspective, while it is a financing item regarding private social benefits).

Finally, the net social spending indicators are related to GDP at factor cost rather than GDP at market prices – the most frequently used indicator on the size of an economy. The reason for this is that, since adjustment has been made to benefits for the value of indirect taxation, the denominator (GDP) has to be adjusted similarly. As GDP at factor cost does not include the value of indirect taxation and government subsidies to private enterprises and public corporations, it seems the most appropriate indicator for international comparisons.

4.1 Public Social Expenditure

Gross public social expenditure indicators lead us to believe that public social effort is much higher in continental western European and Denmark (and other Nordic countries) than elsewhere in the OECD. Public social expenditure as a proportion of GDP at factor cost is about 15 percentage points higher in continental western European countries than in non-European OECD countries (Chart 1).

However, governments in Europe claw back more money through direct and indirect taxation of public transfer income than the value of the tax advantages they award for social purposes. Thus, *net public social expenditure* is usually less than gross spending indicators suggest. The adjustments imply that net public social spending as a proportion of GDP at factor costs is 7 to 9 percentage points below levels suggested by gross public spending indicators for the Netherlands and Denmark, respectively. Austria holds an intermediate position, as the difference between gross and net public

spending is about 5 percentage points of GDP at factor costs. Compared to other European countries the impact of taxation on public social expenditure is relatively small in Germany and the UK: about 2 percentage points of GDP at factor cost. This difference is even smaller in Japan, while in the United States gross public spending actually *underestimates* public social effort.

In gross public spending terms, Denmark appeared the country with the highest spending quota (Chart 1). However, as taxation of public cash benefits in Germany is relatively small, and despite the value of the tax breaks towards families with children, the adjustments for the impact of the tax system lead to similar public spending quota for Denmark and Germany: about 27% of GDP at factor cost. Similarly, net public social effort in the UK is higher than in the Netherlands (Chart 6). Public social expenditure in Japan and the US is about 10 percentage points below that in Denmark: but the difference in social effort as suggested by gross indicators is cut in half.

4.2 Total Social Expenditure

Considering both *net public* and *net private* social benefits leads to an identification of that proportion of an economy's domestic production to which recipients of social benefits lay claim: *net total social expenditure*. Among the countries presented here, net total social expenditure is highest in Germany at almost 29% of GDP at factor cost - it is 30.5% of GDP at factor cost for Sweden (Adema, 2001). Net total social expenditure quotas are rather similar in Austria, the Netherlands and the UK and the US at 25% of GDP at factor cost, due to the importance of private, mainly voluntary, social benefits in the last three countries, particularly for the US.

5 Concluding Remarks

A comprehensive analysis of social effort requires information on public and private cash-transfers and social services as well as detailed information on the impact of tax systems on social expenditure. Data on gross public social expenditure is available on a comprehensive basis, but information on private social spending is of a lesser quality, while observations on the impact of tax systems at times necessarily rely on estimates, rather than administrative records. However, these limitations do not invalidate the observations on the broad-thrust of impacts that tax systems and private social spending has on social effort within and across countries:

- Accounting for the impact of the tax system on public social expenditure reduces differences in spending quota across countries. This is because the claw-back on cash transfers through direct and indirect taxation is considerable in most continental western European countries, while public social expenditure measured before tax underestimates public social effort in the US.
- Also accounting for the role of private social benefits has an additional equalising impact on spending quota across countries, except Japan. And, the proportion of an economy's domestic production to which recipients of social benefits lay claim appears rather similar in Austria, the Netherlands the UK and the US.

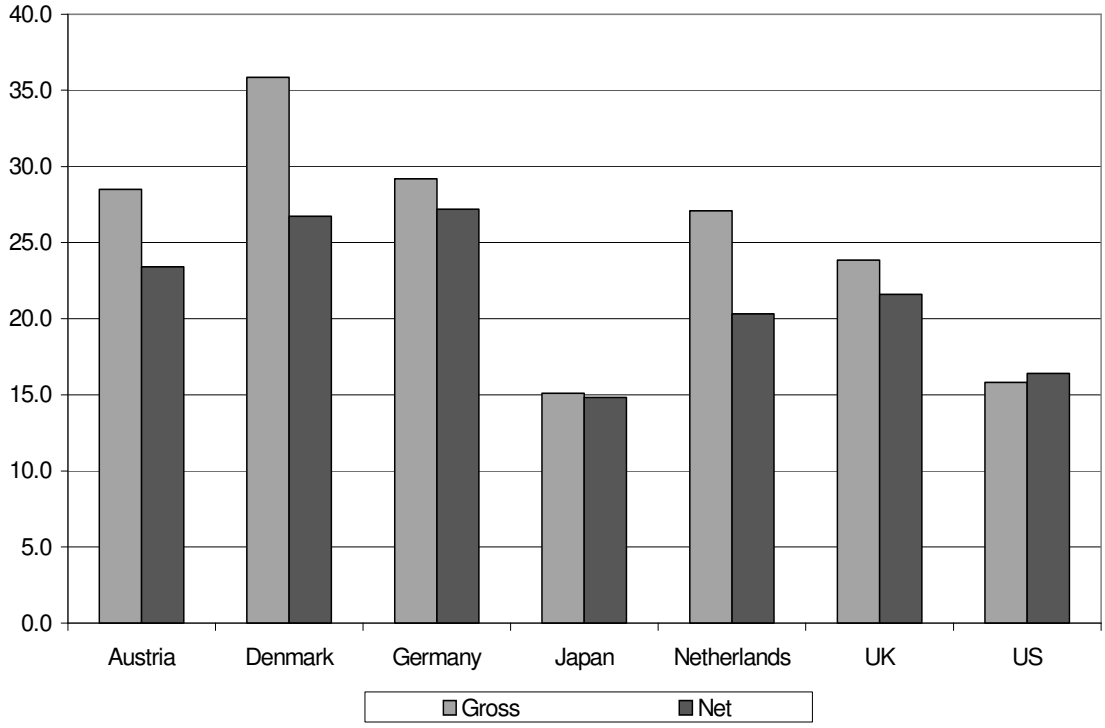

Chart 6. Public social expenditure before and after tax, 1997
(per cent of GDP at factor cost)

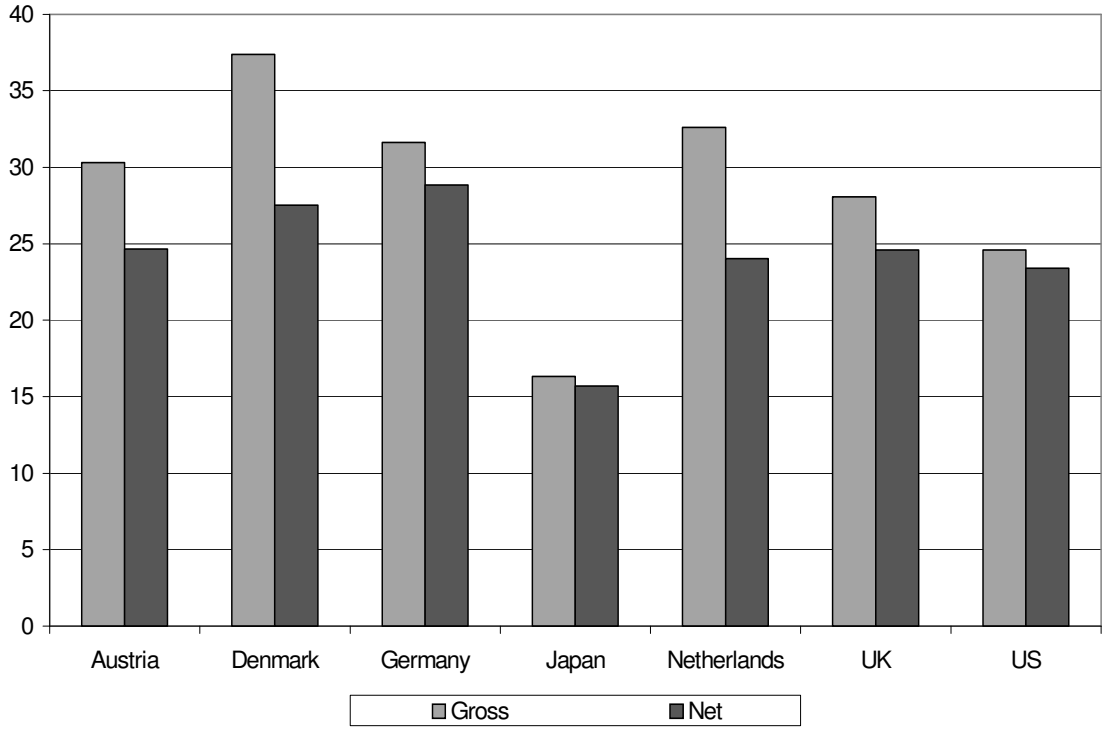

Chart 7**.** Total social expenditure before and after tax, 1997
(per cent of GDP at factor cost)

Source: Adema (2001)

However, this similarity in spending quota does not mean that the manner in which social policy goals are pursued within national tax and social protection system is similar too. Tax and social protection systems vary hugely across countries in institutional set-up and re-distributional nature, and such differences concern the comparisons of public programmes across countries as well as public vis-à-vis private programmes. Further work is required to assess the re-distributional nature of tax and benefit systems across countries. Nevertheless, it is clear that observations on social expenditure levels within and across countries that do not account for the impact of tax systems and private social benefits are prone to be misleading.

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